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INDEX OF FRAGMENTS OF HERACLITUS

The number of every cosmic fragment, and the page reference of its main treatment, is in bold type.

Fragment numbers followed by the letter D refer to paraphrases or unreliable quotations, accepted by Diels as genuine fragments; except that fragments with numbers higher than 126 were classed by him as doubtful or spurious.

ABBREVIATIONS

The following abbreviations may be mentioned; others should be self-evident.

BURNET J. Burnet, *Early Greek Philosophy*, 4th ed. 1930 (a reprint with corrections of 3rd ed. 1920).

CHERNISS H. Cherniss, *Aristotle's Criticism of Presocratic Philosophy* (Baltimore, 1935).

CQ *Classical Quarterly*.

DIELS *Doxographi* H. Diels, *Doxographi Graeci* (Berlin, 1879).

DIELS *Herakleitos*² H. Diels, *Herakleitos von Ephesos*, 2nd ed. (Berlin, 1909).

DK *Die Fragmente der Vorsokratiker*, 5th and 6th edns., by H. Diels, edited with additions by W. Kranz. (The 6th ed. is a photographic reprint, 1951–2, of the 5th, with Nachträge by Kranz.)

GGN *Nachrichten v. d. Gesellschaft d. Wissenschaft zu Göttingen* (Phil.-hist. Klasse).

GIGON O. Gigon, *Untersuchungen zu Heraklit* (Leipzig, 1935).

LASSALLE F. Lassalle, *Die Philosophie Herakleitos' des Dunkeln von Ephesos*, 2 vols. (Berlin, 1858).

LSJ Liddell and Scott, *A Greek-English Lexicon*, 9th ed. 1925–40, revised by H. Stuart Jones and R. McKenzie.

RE Pauly-Wissowa, *Real-Encyclopädie d. class. Altertumswissenschaft*.

Ph.U. *Philologische Untersuchungen*.

REINHARDT *Parmenides* K. Reinhardt, *Parmenides und die Geschichte der griechischen Philosophie* (Bonn, 1916).

Rh. M. *Rheinisches Museum*.

SB Ber *Sitzungsberichte d. preussischen Akademie d. Wissenschaft*.

SCHUSTER P. Schuster, *Heraklit von Ephesus* (Leipzig, 1873).

VS *Die Fragmente der Vorsokratiker*, 1st–4th edns., by Hermann Diels.

WALZER R. Walzer, *Eraclito. Raccolta dei Frammenti e Traduzione Italiana* (Firenze, 1939).

ZN E. Zeller, *Die Philosophie der Griechen* I, ii, 6th ed. 1920, edited by W. Nestle. References are either to Zeller ZN or (in the case of editor's notes) to Nestle ZN.

References to the commentators on Aristotle are by the page number and editor's name in the appropriate volume of the Berlin Academy *Commentaria in Aristotelem Graeca*.

References to Hippolytus and Clement of Alexandria are usually followed by the page number and editor's name in the appropriate volume of the Berlin Academy *Die griechischen christlichen Schriftsteller der ersten drei Jahrhunderte*.

INTRODUCTION

I. THE DATE OF HERACLITUS

According to Diogenes Laertius IX, 1 Heraclitus was at his prime (i.e. aged forty) in Ol. 69 (504/503–501/500 B.C.). This information comes doubtless from Apollodorus, whose arbitrary dating methods are well known (see Jacoby, *Apollodors Chronik* (Berlin, 1902); Burnet 38). Heraclitus was traditionally associated with Darius (see the first two false Letters, Diog. L. IX, 13–14), and so, perhaps, was placed in the middle of his reign, approximately at the time of the Ionian revolt. He also comes the traditional forty or so years after the foundation of Elea, with which Xenophanes (his master according to some) was associated; and after Anaximenes (who according to Diog. L. II, 3 and the Suda was born in 546/545, at the time of the capture of Sardis; but this is probably a mistake for his *floruit*, which Hippolytus, *Ref.* I, 7, 9, placed in Ol. 58, 1: see Burnet 72 and n. 2). There is no need to doubt that Apollodorus' dating is here approximately correct. In fr. 40 Heraclitus refers to Xenophanes, Hecataeus and Pythagoras (as well as Hesiod) as though their main philosophical activity were over. The fragment does not necessarily mean that the first two were alive and the others dead (as Kranz, *Hermes* 69 (1934) 115, thought), or that all were dead. Hesiod is the only one of whom we can be certain. According to Timaeus, Xenophanes lived on into the reign of Hieron, which began in 478; but this does not necessarily prove that Heraclitus wrote after that date. Nor does fr. 121: Zeller's argument that the Ephesians would not have been able to banish Hermodorus until after the liberation is valueless, since the Ionian cities had a great measure of political freedom under the Persian governors. Nor is the contention of Reinhardt (*Parmenides und die Geschichte der griechischen Philosophie* (Bonn, 1916) 157) that 'let there be no best man among us' implies the full restoration of democracy, and therefore a date well after 478, much more persuasive. Further, even if the Ephesian Hermodorus who was said by Pliny, *N.H.* XXXIV, 21, to have had a hand in the drafting of the Twelve Tables at Rome was the Hermodorus of fr. 121 (as Strabo, 14, 642, conjectured), this does not lower the date of the fragment: the Tables

were established about the middle of the century, but a foreigner would scarcely have been called on to assist immediately after his arrival in Rome; indeed, before this happened he might well have lived in exile for thirty years or more. No evidence for date can be derived from the very questionable echoes of Heraclitus in Epicharmus (see p. 395). On the other hand, it seems more probable than not that Parmenides referred to Heraclitus: the emphasis on the complete lack of connexion between the initial opposite substances in the Way of Seeming, although formally part of the view of mortals, may represent Parmenides' own abnegation of the compromise offered by the Heraclitean opposite-doctrine; fr. 8, 55ff. τἀντία δ' ἐκρίναντο δέμας καὶ σήματ' ἔθεντο | **χωρὶς ἀπ' ἀλλήλων,** τῇ μὲν φλογὸς αἰθέριον πῦρ, | ἤπιον ὄν, μέγ' [ἀραιὸν] ἐλαφρόν, **ἑωυτῷ πάντοσε τωὐτόν,** | **τῷ δ' ἑτέρῳ μὴ τωὐτόν·** . . . On the other hand, I feel doubtful whether the better known passage attacking the third 'way' is directed specifically against Heraclitus, though he no doubt is included; fr. 6, 6ff. . . . οἱ δὲ φοροῦνται | κωφοὶ ὁμῶς τυφλοί τε, τεθηπότες, ἄκριτα φῦλα, | οἷς τὸ πέλειν τε καὶ οὐκ εἶναι ταὐτὸν νενόμισται | κοὐ ταὐτόν, πάντων δὲ παλίντροπός ἐστι κέλευθος. Heraclitus certainly never identified being and not-being (see p. 373), and the 'backward-turning path' is in meaning very different from the 'method of joining which operates in both directions' of fr. 51 (p. 203) or the 'way up and down' of fr. 60 (p. 105), whatever its interpretation.

Karl Reinhardt in the book already cited attempted to show that Heraclitus worked not before but about twenty years after Parmenides, and that the theories of constancy in change were an attempt to meet the Eleatic dilemma. His arguments are in the main subjective, e.g. that the antithetical style of Heraclitus belongs later in the century, and that the repetitions of argument are influenced by the professedly circular argument of Parmenides. The appeals to external chronological evidence are no more convincing: for example, Reinhardt attaches weight both to the early Apollodoran dating of Parmenides which is refuted by Plato (see Burnet 169), and to the view shared by Eusebius and Hippolytus according to which Heraclitus was a contemporary of Empedocles (see Table III on p. 25). The latter is a hopelessly distorted account which was probably propagated by Heraclides Lembus. This is not the place to undertake a detailed refutation of Reinhardt's thesis, which has won

little support and to which its author has not referred in recent articles on Heraclitus. The value of Reinhardt's interpretation of Heraclitus' thought, advanced for the first time in his book, is only slightly diminished by the implausibility of the main chronological hypothesis.

In brief, there is no reason to reject Apollodorus as a rough guide for the date of Heraclitus. If he was in his middle years at the very end of the sixth century then his active philosophical work is likely to have been completed by about 480 B.C., when he would be in his sixties. Parmenides (according to Plato *Parmenides* 127B) would be at least twenty-five years younger.

II. THE LIFE OF HERACLITUS

The ancient evidence on this subject is thin and unreliable. Plato tells us no more than that Heraclitus was an Ionian and from Ephesus; Aristotle adds no personal information except the anecdote at *de part. an.* A 5, 645a17 (DK 22A9), that Heraclitus, 'warming himself before his ἰπνός', told some hesitant visitors to enter; for there were gods there, too. If ἰπνός here means 'stove' the reference is to fire; if 'midden', to the taboos of Hesiod and Pythagoras. Theophrastus' Φυσικῶν δόξαι contained no personal information beyond the names of native city, father, and perhaps tribe, of each philosopher. Peripatetic biography was chiefly represented by Aristoxenus, whose Βίοι ἀνδρῶν or similar works may have contained some source-material on Heraclitus which was utilized by some of the authorities used later by Diogenes Laertius. The Stoic writers on Heraclitus of whom we know, Cleanthes and Sphaerus, probably restricted themselves to his theories. It was in Alexandria that ancient 'biography' came into its own: all that could be was culled from classical sources, the rest was supplied by the imagination, whether roaming freely over the traditional semi-mythical patterns of Famous Lives (humble origins, strange diets, captures by pirates, eccentric deaths, and so on) or more strictly confined to the elaboration of themes suggested by the subject's extant writings. The only substantial ancient biography of Heraclitus, by Diogenes Laertius, draws freely on this kind of source. Diogenes, who worked in the third century A.D., had access to a large number of handbooks

(biographical, doxographical, chronological and diadochal) and summaries, which had been compiled, revised, shortened and recontaminated between the early third century B.C. and his own day. He often names his sources and sometimes records conflicting accounts; but it is evident that even if the works of his fuller authorities, like Diocles of Magnesia and Hermippus of Smyrna, had survived, we should still know little that was true about Heraclitus' life. Diogenes' account is translated below, with running commentary:

DIOG. L. IX, 1ff.:

Heraclitus son of Bloson (or according to some, of Herakon), of Ephesus. This man was at his prime in the 69th Olympiad.

The father's name is also given as Bleson, Blyson, Bautor; but Bloson is the best attested. Herakon might have been his grandfather's name. Cf. Ἡράκλειτος Ἡράκωνος in *IG* IV², no. 71, 83.

He grew up to be exceptionally haughty and supercilious, as is clear also from his book (συγγράμματος), in which he says... [frr. 40, 41, 42]. (2) And he said also... [frr. 43, 44]. And he attacks the Ephesians too for having exiled his companion Hermodorus, where he says... [fr. 121].

These quotations are meant to illustrate Heraclitus' conceit. Frr. 43, 44, introduced by the words ἔλεγε δὲ καί, are probably an addition, as perhaps is fr. 121 (quoted with slightly greater accuracy by Strabo); they are not altogether irrelevant, as K. Deichgräber (in his valuable article 'Bemerkungen zu Diogenes' Bericht über Heraklit', *Philologus* 93 (1938–9) 12ff.) has shown.

When he was asked by the Ephesians to establish laws he refused to do so, because the city was already in the grip of its evil constitution. (3) He used to retire to the temple of Artemis and play knuckle-bones with the children; when the Ephesians stood round him he said: 'Why, villains, do you marvel? is it not better to do this than to join with you in politics?'

At this point begins a series of fictitious stories about Heraclitus, childishly and often maliciously developed out of sayings of his well known in later antiquity, many of which are preserved as fragments: see, as well as Deichgräber, H. Fränkel *AJP* 59 (1938) 309ff. The refusal of the request to make laws (a standard occupation for early sages, cf. Xenophanes, Pythagoras, etc.) is probably based upon Heraclitus' interest in *nomos* (frr. 44, 114) together with his fierce criticism of the banishment of Hermodorus (fr. 121), from which it could be inferred that he was hostile to the régime. The game with the children is perhaps based upon fr. 52 'Time(?) is a child playing, playing draughts; the kingship is a child's.' The significance here of the temple is not clear, except that it was known to lie outside the town and would therefore be an obvious resort for disgruntled citizens. The remark to the Ephesians is quite commonplace, just the sort of thing which might be made up: Kranz thinks it genuine.

Finally he became a misanthrope, withdrew from the world, and lived in the mountains feeding on grasses and plants. However, having fallen in this way into a dropsy he came down to town and asked the doctors in a riddle if they could make a drought out of rainy weather. When they did not understand he buried himself in a farmyard (βουστασιν, lit. 'cow-stall'), expecting that the dropsy would be evaporated off by the heat of the manure; but even so he failed to effect anything, and ended his life at the age of sixty. Here is a little thing I wrote about him: 'I have often wondered how Heraclitus having drained his life to the dregs died in this ill-fated fashion; for an evil sickness watered his body, quenched the light in his eyes, and brought on darkness.'

The fictions intensify. Misanthropy is deduced from the many criticisms of the πολλοί, vegetarianism perhaps from fr. 5 (criticism of blood-purifications). The fatal dropsy is a reflexion of fr. 36 ('it is death for souls to become water'): cf. also Marcus Aurelius III, 3. The expression περιτραπεὶς εἰς ὕδερον (translated above as 'having fallen into a dropsy') probably depends on fr. 31, πυρὸς τροπαί· πρῶτον θάλασσα....The riddle to the doctors (cf. fr. 56) illustrates a notorious characteristic—Diogenes below quotes Timon's description of Heraclitus as 'riddler'. Heraclitus attacked the doctors in fr. 58: now, because of his wilful obscurity, they do nothing for him. The burying in manure is perhaps based on the mention of dung in connexion with corpses in fr. 96. Fränkel is undoubtedly right that the biographers try to subject Heraclitus to every kind of ignominious situation which could be based upon his sayings, in reprisal for his contempt for men. The expectation that the dropsy would be evaporated is based upon the theory that the sun feeds on evaporation from the sea. Deichgräber suggests that the age of sixty is from Aristotle, who at Diog. L. VIII, 52 is quoted as saying that Empedocles and Heraclides died at this age: probably Heraclitus should be read here. But sixty years was a good life-period when in doubt. Diogenes' deplorable epigram contains a reference to fr. 26.

(4) Hermippus says that his question to the doctors was if anyone can reduce the entrails and draw off the moisture; when they said 'no' he placed himself in the sun and told the children to cake him with manure; being thus stretched out he died on the second day and was buried in the market-place. Neanthes of Cyzicus says that being unable to break off the manure he remained, and not being recognized because of the change he was devoured by dogs.

Hermippus of Smyrna and Neanthes both lived in the third century B.C.: the former wrote an extensive work on the lives of great men, including many philosophers; he concentrated especially on bizarre deaths, following a work π. θανάτων according to Diels *Herakleitos*[2] 3n. The burial in the market-place was standard in such works, cf., for example, the pseudo-Herodotean *Life of Homer*. Diels read τὰ ἔντερα κεινώσας for ms. ἔντερα ταπεινώσας, but ταπεινῶσαι, of the spleen, is used by Dioscorides, *Mat. Med.* II, 155. In any case the language of Hermippus' version is not griphic, but technical-medical; the griphic version is obviously more appropriate in the context. It occurs in the sixth Letter, and there is perhaps a reminiscence of it in Philostratus *Vita Apollonii* I, 9, (to a drunkard suffering from dropsy) ὕδατι ἐπαντλεῖς πηλόν. How the variant version arose is beyond our knowledge.

(5) He was exceptional from childhood: as a young man he professed to know nothing, yet on reaching maturity he claimed to know everything. He was no-one's pupil, but said that he had searched for himself and learnt everything from himself; but Sotion says that some said he was a pupil of (ἀκηκοέναι) Xenophanes, and that Ariston in his *On Heraclitus* said that he was cured of the dropsy and died of another disease: Hippobotus too says this.

That Heraclitus had no master was deduced from fr. 101, 'I sought for myself'; the assertion that he once claimed to know nothing is probably based upon Socrates. Sotion was an Alexandrian scholar who shortly after 200 B.C. wrote a history of Greek philosophy on the broad assumption that each thinker was a pupil of his chronological predecessor; he also distinguished the Ionian and Italian 'schools'. It is not clear whether he himself believed that Heraclitus was a pupil of Xenophanes; that conjecture was bound to be made by someone, but in spite of Heraclitus' probable debt to Xenophanes' religious rationalism the critical tone of fr. 40 does not support a master-pupil relationship. The variants on the manner of death are further expanded; they evidently came into being comparatively early, for Hippobotus too worked before 200 B.C.

The book said to be his is called 'On Nature', from its contents, and is divided into three discourses (λόγους): On the universe, Politics, Theology. (6) He dedicated it and placed it in the temple of Artemis, as some say, having purposely written it rather obscurely so that only those of rank and influence should have access to it and it should not be easily despised by the populace. Timon sketches Heraclitus in these words: 'Among them leapt up crowing, mob-reviling, riddling Heraclitus.' Theophrastus says that out of impulsiveness (μελαγχολίας) part of his writings are unfinished, part inconsistent. (Antisthenes in his 'Successions' quotes as a sign of his arrogance that he resigned the hereditary 'kingship' to his brother.) The work had so great a reputation that from it disciples arose, those called Heracliteans.

The Stoics divided philosophy into three parts, logic, ethics and physics: Cleanthes subdivided into dialectic, rhetoric; ethics, politics; physics, theology. It is the last three of these subdivisions which are attributed to Heraclitus, as Deichgräber, *loc. cit.* 19, pointed out. Heraclitus' own words can never have fitted into such a rigid scheme: judging from the extant fragments there was comparatively little about politics and quite a lot about ethics; it must be remembered that on the Peripatetic view these came in one category. The fragments about god cannot be separated from the physical fragments; for Heraclitus all branches of knowledge were interconnected. The division is a Stoic one; perhaps some handbook of sayings, published in Alexandria, had been given this form. Thus when Diogenes or his sources mention a book (σύγγραμμα or βιβλίον) of Heraclitus they may have been thinking of a later compilation. It is possible that Heraclitus wrote no book, at least in our sense of the word. The fragments, or many of them, have the appearance of being isolated statements, or γνῶμαι: many of the connecting particles they contain belong to later sources. In or perhaps shortly after Heraclitus' lifetime a collection of these sayings was made, conceivably by a pupil. This was the 'book': originally Heraclitus' utterances had been oral, and so were put into an easily memorable form. The generally ascribed title 'On Nature' means nothing: this was a standard title applied to all works by or attributed to those whom the Peripatetics classified as φυσικοί. Of course it cannot be proved that Heraclitus wrote a book, or that he did not: but I shall normally refer to his 'sayings' rather than his book, because in either case this seems to give a truer idea of his intentions and methods. The deposition of the book in the temple of Artemis is another biographical commonplace; similar stories were told of

Hesiod, Crantor and others. Wilamowitz, *Glaube der Hellenen* II, 210 n. 1, suggested that there was truth in the story. This, of course, may be so: but the apparent motive for putting the book in the temple, that only the upper class and not the common people should have access to it,[1] is one which might have been invented on the basis of the fragments (especially, for example, fr. 29); further, any Ephesian would be expected to have some connexion with the famous temple, and one certainly fictitious incident, the game of knuckle-bones with the children, was set there. It is even possible that there was an aetiological motive for the story: if the book was kept in the temple then it would have been destroyed in the fire of 356 B.C., thus explaining the absence of a complete version in the Alexandrian library.

Timon (of Phlius, the sillographer, *c.* 320–230 B.C.), with his αἰνικτής, first summarized what was to become Heraclitus' chief claim to fame, the obscurity which was later recorded in the almost invariable epithet σκοτεινός or 'obscurus' (Cicero *de fin.* II, 5, 15; [Aristotle] *de mundo* 5, 396b 20, etc.). The meaning of the μελαγχολία attributed to Heraclitus by Theophrastus is a technical one, as Deichgräber, *loc. cit.* 21 f., pointed out, and is given by Aristotle *EN* H 8, 1150b 25: 'melancholics' are those who διὰ τὴν σφοδρότητα οὐκ ἀναμένουσι τὸν λόγον διὰ τὸ ἀκολουθητικὸν εἶναι τῇ φαντασίᾳ. Ancient (and some modern) critics took the meaning to be simply 'melancholy', and so began the futile legend of the 'weeping philosopher', perhaps with the help of the πάντα ῥεῖ interpretation (Seneca *de tranq.* 15, 2; Lucian *Vit. auct.* 14, etc.). Next in the account comes a misplaced remark from Antisthenes of Rhodes, the second century B.C. Succession-writer, which tells us that Heraclitus must have belonged to the Androclid family: according to Strabo 14, 632 the descendants of Androclus son of Codrus, the founder of Ephesus, were still called 'kings' and had certain ceremonial privileges—a front seat at the games, the right to wear royal purple and to carry a special kind of staff, and the management of the rites of Eleusinian Demeter. Clearly only the senior male member of the

[1] The ms. text is ὅπως οἱ δυνάμενοι προσίοιεν αὐτῷ: Richards' ⟨μόνοι⟩ may be right, but it is not essential. οἱ δυνάμενοι as opposed to τοῦ δημώδους must have the common meaning 'those in power'; we are not entitled to understand a verb like συνεῖναι (so Diels) with δυνάμενοι, even though this may give a slightly better sense.

family had these privileges, which are scarcely likely to have appealed to Heraclitus. There is no obvious motive for inventing this story, which might provisionally be accepted as true. The remark which follows is important, since it shows that in the opinion of the biographer who is Diogenes' source at this point the 'Heracliteans' had not been members of a 'school' of Heraclitus, but were simply devotees of his book. 'Heracliteans' were presumably known to later antiquity from the remarks of Plato and Aristotle which will be mentioned later (pp. 14 ff.).

(7) His opinions were in general (καθολικῶς) these: all things are composed from fire and into this they are resolved; everything comes-to-be according to fate and existing things are connected through the turning in opposite directions (mss. ἐναντιοτροπῆς: ἐναντιοτροπίας Kranz, ἐναντιοδρομίας Diels); and all things are full of souls and daemons. He spoke also about all conditions of organism in the world and said that the sun is the size it appears to be. And he said too: . . . [fr. 45], and he called conceit a sacred disease, and seeing, being deceived [= fr. 46]. Sometimes in the book he utters transparently and clearly, so that even the dullest man easily understands and receives an elevation of the soul; and the conciseness and weight of his exposition are incomparable. (8) And his detailed opinions (τὰ ἐπὶ μέρους . . . τῶν δογμάτων) were as follows. . . .

Diogenes Laertius usually gives a general or summary (κεφαλαιώδης) and a specific (ἐπὶ μέρους) account of the theories of the philosophers he describes. Diels, *Doxographi* 163, has shown that both accounts are derived from Theophrastus, the specific one from a good doxographical summary and the general one from a careless and trivial biographical work. Deichgräber's theory (*Philologus* 93 (1938–9) 23 ff.), that the general account as well as the special one closely follows Theophrastus, is most improbable. The general or summary account of Heraclitus is a good example of the heterogeneous character of these passages. It consists of a little Stoicizing doxography, a more or less arbitrary series of references to sayings, genuine or otherwise, of Heraclitus, tacked on with an ἔλεγε δὲ καί, and finally a stylistic judgement after the manner not of Theophrastus (whose criticism of Heraclitus' exposition is unfavourable) but of the rhetorical-critical school best represented by the author of Περὶ ὕψους. The special doxographical account follows: it is omitted here as irrelevant to the life of Heraclitus, but see p. 328 and pp. 270 ff.

. . . And these were his views.—The story about Socrates and his remark on coming across the book when Euripides introduced it, according to Ariston, I have told in my section on Socrates. (12) However, Seleucus the grammarian

says that a certain Croton relates in his 'The Diver' that a man called Crates first introduced the book into Hellas, and said that it needed a Delian diver not to be drowned in it. Some give it the title of 'Muses', some 'On Nature', Diodotus 'A well-found rudder for the rule of life', others 'A pointer of morals', 'One order of behaviour among all'. They say that when asked why he was silent he replied 'That you may babble'. Darius, also, desired to make his acquaintance, and wrote to him as follows: [Here follow the first and second of the collection of letters falsely attributed to Heraclitus; the first purporting to be an invitation to the philosopher, the second an abrupt refusal.] Such was the man even to a king.

The other version of the Delian diver remark, there attributed to Socrates, is at Diog. L. ii, 22. Kranz in DK, by making the sentence about Seleucus, Croton and Crates a parenthesis, attempts to retain the attribution to Socrates here: but the infinitive εἰπεῖν in this case is difficult, and it is evident that Diogenes is here giving a slightly different version. The iambic rhythm of Δηλίου τινὸς δεῖσθαι κολυμβητοῦ, ὃς οὐκ ἀποπνιγήσεται ἐν αὐτῷ is noticeable (cf. also *A.P.* ix, 578), and supports the possibility of a dramatic origin. Euripides was named by Ariston as having introduced the book into Greece (not merely to Socrates), probably because he was the first to own a library and was known as a friend of philosophers. The list of titles or mottoes is largely fictitious—only 'On Nature' has any plausibility, and on this see pp. 7 and 37n.; 'Muses' is from Plato *Sophist* 242D; Diodotus (who is mentioned again below) gives a verse summary; the others are quainter still and obviously of Stoic or Cynic origin. The textual uncertainties need not trouble us here. The fictitious letters were probably composed in the first century A.D. (p. 29); these two may not be by the same hand as the others. The origin of the story connecting Heraclitus and Darius is not known; but Sardis, which was only three days' journey from Ephesus (Herodotus v, 54), was probably still visited by many Ionians, and the proposal of a meeting, though unlikely and the sort of thing that appealed to an Alexandrian academic, is not impossible.

(15) Demetrius says in his 'Men of the same name' that he scorned the Athenians also, among whom he had the highest reputation, and that although held in despite by the Ephesians he nevertheless preferred his native surroundings. Demetrius of Phaleron, too, mentioned him in his 'Apology of Socrates'. There are very many who wrote commentaries on his book—Antisthenes and Heraclides of Pontus, Cleanthes and Sphaerus the Stoic, and in addition Pausanias the so-called Heraclitist and Nicomedes and Dionysius. Of the grammarians Diodotus did so, who says that the book is not about

Nature but about government, and that the physical parts belong in the class of allegory. (16) Hieronymus says that Scythinus too, the author of the iambics, undertook the expression of Heraclitus' account in metre.

This plethora of sources may be due in part to a bibliographical index, though there is no reason to doubt that Diogenes, by the medium of handbooks, had access to a large number of authorities. Demetrius of Phaleron, *c.* 350–280 B.C., was for some time librarian at Alexandria. Antisthenes the Heraclitean is distinguished from the Socratic, also from the Succession-writer already mentioned, by Diogenes at vi, 19. Heraclides, the member of the Academy, is said by Diogenes at v, 88 to have written four books of ἐξηγήσεις of Heraclitus, and thus was one of the earliest full sources; Cleanthes the Stoic also wrote four books of commentary (Diog. L. vii, 174), while Sphaerus, the pupil first of Zeno and then of Cleanthes, composed five 'studies' (διατριβαί) on Heraclitus (Diog. L. vii, 178). Cleanthes' interest is apparent from the extant *Hymn to Zeus*, and from Arius Didymus fr. 39: see on frr. 41 and 12. Of Pausanias the Heraclitist, Nicomedes and Dionysius nothing else is known. Diodotus, whose political interpretation is as ridiculous as his verse motto mentioned above, may be of Sidon, brother of the Peripatetic Boethus and himself a member of the Lyceum in the third century B.C. Hieronymus is presumably the third century B.C. Peripatetic and literary historian, of Rhodes; Scythinus of Teos is usually put in the fourth century B.C. (Jacoby in *RE*, s.v., calls him a contemporary of Plato), but his two surviving fragments (the second restored to trochaics by Wilamowitz: they are to be found in DK 22C3, 2) remind one very strongly of Cleanthes, and I suggest that Scythinus actually overlapped the Stoic: Hieronymus did not die till 230 B.C., so Scythinus' versions (which were doubtless very free indeed) could have been composed as late, say, as 240.

He is the subject of many epigrams, among them this one: 'I am Heraclitus: why do you uncultured ones drag me to and fro (ἄνω κάτω)? Not for you did I toil, but for those who know me. One man to me is as thirty thousand, the numberless multitude is as no-one: this do I proclaim even in the domain of Persephone.'—and this other one: 'Do not be in a hurry to unwind to the centre-stick the roll of Heraclitus the Ephesian; the path is hard indeed to traverse. There is gloom and unrelieved darkness; but if an initiate lead you, it shines more brightly than the shining sun.'

The first epigram (= *A.P.* vii, 128) is of no merit, and drags in Heraclitean clichés much in the manner of the false letters. The

second (= *A.P.* IX, 540) is of higher poetical quality, and the imagery from the Mysteries (in which the novice was led from darkness into the brilliantly lit scene of revelation) is effective: the suggestion, too, that beneath the obscurity of Heraclitus' style a clear and penetrating thought is concealed, is not a common one. Heraclitus was not much admired, except as a curiosity, outside Stoic circles. Deichgräber indeed (*loc. cit.* 29ff.) has suggested that the epigram may have stood as introduction to a commentary on Heraclitus, and has tentatively proposed Cleanthes as author; he wrote such a commentary and was also a competent versifier. This must remain a pure speculation: but it is not an impossible one.

(17) There were five men named Heraclitus: first this one; second a lyric poet, author of the encomium of the Twelve Gods; third the elegiac poet of Halicarnassus, to whom Callimachus wrote: 'They told me, Heraclitus, they told me you were dead...'; fourth a man of Lesbos who wrote a history of Macedonia; fifth a humourist who adopted this role after having been a lyre-player.

In addition, there was the writer of the Homeric Allegories. As far as we know there was no confusion in antiquity between the philosopher and any of these namesakes, who were all, probably, much later. Diogenes is perhaps dependent here on Demetrius' 'Men of the same name', already cited: with this passage his account of Heraclitus ends.

Other biographical information:

(1) the very brief account in the Suda (DK 22 A 1 a) adds to Diogenes another variant to the fable about his death, that it was caused by being buried in sand. It also says that some made Heraclitus a pupil of Hippasus as well as of Xenophanes; and asserts that he wrote much in verse. Aristotle, of course, connected Heraclitus and Hippasus because according to him they both made fire the first principle; this is the cause of the story. As for the composition in verse, this is either due to conflation with Empedocles or to the existence of verse versions like Scythinus', and a hexameter version (see Zeller ZN 810 n.). The similarities between the Suda and Diogenes are sometimes due to direct dependence, more often to the use of the same collections and handbooks (Schwartz *RE* v, 753f.).

(2) Clement also used the same materials as Diogenes and has some parallel passages (Schwartz *RE* v, 750f.); at *Strom.* I, 65, 4 (II, p. 41 Stählin; DK 22 A 3) he has a unique piece of information, that 'Heraclitus the son of Blyson persuaded Melancomas the tyrant to reject the rulership'. This may be a perversion of the story that Heraclitus himself gave up the hereditary βασιλεία of the Androclids; possibly Melancomas, otherwise unknown (there was an Ephesian of that name in 214 B.C.: Polybius VIII, 15ff.), is the same as Comas who was tyrant in the later sixth century, but who did not as far as is known voluntarily resign the tyranny. Probably the story is a fiction of the common philosopher-influencing-king category.

(3) Plutarch and Themistius (DK 22 A 3b) preserve stories, the same in essence but different in circumstance, that Heraclitus, being asked for advice, silently recommended to the Ephesians a simpler way of life by mixing water and barley, stirring it, and drinking it down. The story seems to be an embellishment of fr. 125 ('The barley-drink, too, separates if it is not stirred'); the act of stirring is irrelevant to the story but is specifically mentioned by Plutarch. Compare the anecdote at Diog. L. IX, 12: when asked why he was silent Heraclitus replied, 'That you may babble.'

III. THE ANCIENT EVIDENCE ON HERACLITUS' THOUGHT

(i) PLATO

There is probably no evidence earlier than Plato, except for the fragments themselves and the doubtful references in Parmenides and Epicharmus. The Hippocratic *de victu* (see p. 21) is probably post-Platonic.

Direct quotations

Virtually none. In the *Hippias Major* (289 A, B) come frr. 82–3 (god surpasses man by as much as man surpasses ape), quoted for their form rather than their content and partly re-worded.

References to or paraphrases of extant fragments

To fr. 6 (the sun is new every day), at *Rep.* VI, 498 A; to fr. 51, see **ii** (1) and (2) below; to fr. 12, see **i** (*a*) (1) below.

General references

i All things are in flux (*Cratylus* and *Theaetetus*).

(*a*) *Attributed to Heraclitus himself.*

(1) *Crat.* 402A (Plato's seriously intended summary of fr. 12): everything is moving like a river; nothing stays still. Cf. *Crat.* 401D.

(2) *Theaet.* 160D: All things move like streams according to Homer and Heraclitus and all that kind of tribe (semi-jocular).

(3) *Theaet.* 152D, E: All the sages—Protagoras, Heraclitus, Empedocles, Homer, Epicharmus—except Parmenides say that everything is the offspring of flux and motion.

(*b*) *Attributed to the Heracliteans.*

(1) *Crat.* 440B, C: Things are in flux, 'as those around Heraclitus (οἱ περὶ Ἡράκλειτον) say and many others'.

(2) *Theaet.* 179D–180A (Theodorus speaks): The battle between those who support and deny a stable reality is actually growing fiercer around Ionia (περὶ μὲν τὴν Ἰωνίαν), for the companions (ἑταῖροι) of Heraclitus support the latter view. It is impossible to discuss the Heraclitean (or as Socrates says, Homeric) arguments with those around Ephesus (τοῖς περὶ τὴν Ἔφεσον), because of their eristic methods of evasion.... (180C) There is no such thing as master or pupil among them, but they spring up of their own accord.—This last statement suggests strongly that Plato did not intend his earlier local references to a Heraclitean sect in Ephesus to be taken too seriously or literally.

(*c*) *General unattributed comments; Plato's criticisms.*

(1) Brief references to the flux of things at *Theaet.* 156A, 177C, 181A (τοὺς ῥέοντας), 182C; *Crat.* 411B, C (humorous), 439C; *Phaedo* 90C; *Phileb.* 43A; *Sophist* 249B.

(2) *Theaet.* 181C–E: The believers in flux must believe that things change qualitatively as well as by movement in space. Plato reaches the conclusion that 'everything moves in every way all the time', πάντα δὴ πᾶσαν κίνησιν ἀεὶ κινεῖται (therefore, he concludes, knowledge cannot be perception).

(3) *Theaet.* 183A: If all things are moving then *every* answer to any question is correct.

ii The one is also the many (cf. fr. 51).

(1) *Sophist* 242D, E: The Ionian and Sicilian muses (i.e. Heraclitus and Empedocles) say that reality is both one and many, simultaneously so according to Heraclitus (διαφερόμενον γὰρ ἀεὶ συμφέρεται), in turn according to Empedocles.

(2) *Symp.* 187A: Music also is ordered by the god of love, 'as perhaps Heraclitus too wishes to say, although he does not express it well in his words: for the One, he says, when in discord is in concord with itself (διαφερόμενον αὐτὸ αὐτῷ συμφέρεσθαι), like the harmony of bow and lyre'.—Plato interprets ἁρμονία here, anachronistically, in a musical sense, as equivalent to συμφωνία. He thinks that Heraclitus must have expressed himself badly, because there cannot be agreement or concord of things which simultaneously differ: perhaps Heraclitus meant that they *previously* differed.—Here Plato appears to misunderstand Heraclitus' idea of the coincidence of (relative) opposites, which he himself clearly expressed in the *Sophist* (**ii** (1) above). The *Sophist* was written after the *Symposium*, which perhaps suggests an improvement in Plato's understanding of Heraclitus; though the present passage comes in a fantastic speech by Eryximachus, and perhaps should not be taken too seriously.

iii Other references to possibly Heraclitean ideas.

(1) Opposites come from opposites: *Theaet.* 152D; *Phaedo* 70E (οὐκ ἄλλοθεν ἢ ἐκ τῶν ἐναντίων τὰ ἐναντία).

(2) *Crat.* 412C–413C: The etymology of δίκαιον on the flux-principle. There is something most swift and most subtle, which governs all other things by passing through them (διαϊόν): some say this is the sun, others fire, others heat. See p. 363.

Conclusion

Plato's knowledge of Heraclitus was evidently limited, though it should be remembered that he only adduces earlier views where they are relevant to his own contentions. The references to the flux of things are by far the most common; this was emphasized because of Plato's own deduction from flux (possibly derived by him from Cratylus) that knowledge of phenomena is therefore impossible. The place of fire in Heraclitus is completely neglected, except possibly in **iii** (2). He knows about the emphasis on change between opposites, though this was perhaps a commonplace of Ionian thought: more important, in the *Sophist* (**ii** (1) above) he interprets Heraclitus' main contention correctly, that things are simultaneously one and many; in this he well distinguishes him from

Empedocles and thus shows that a periodical cosmogony of the Empedoclean type is impossible for Heraclitus. Many of Plato's references are plainly distorted for humorous purposes; perhaps the descriptions of the 'Heracliteans' are mainly derived from his own reflexions upon the river-fragment, and his application of it to things in general.

(ii) ARISTOTLE

Direct quotations

Fr. 1, first clause only (the Logos); fr. 6 (the sun new every day); fr. 7 (if all turned to smoke); fr. 9 (asses prefer sweepings to gold); fr. 85, slightly abbreviated (difficult to resist desire).

Recognizable paraphrases

Fr. 8D (paraphrase of frr. 51, 80—joins tend apart, things happen by strife); fr. 12 (modification of Plato's version); see also **iii** below, which is probably a reasonably close paraphrase of Heraclitus.

General references

i Heraclitus' philosophical method.

(1) *EN* H 5, 1146b29: His dogmatism—Heraclitus is an example of someone who believes in conjecture as much as in knowledge.

(2) *Phys.* A 2, 185a5: His thesis (either that opposites are the same, or that all things move) is an example of one advanced for the sake of argument.

(3) *Rhet.* Γ 5, 1407b13: His style is difficult because of ambiguous connexions, as with ἀεί in fr. 1.

ii His logical fallacy: he denies the law of contradiction.

(1) *Top.* Θ 5, 159b30; *Phys.* A 2, 185b19: Heraclitus, by saying, for example, that good and bad are the same, invalidates all significant predication.

(2) *Met.* Γ 3, 1005b23; *Met.* K 5, 1062a31: A man like Heraclitus need not really believe what he says; he could quickly be shown his error by dialectic.

(3) *Met.* Γ 8, 1012a33; *Met.* Γ 3, 1005b35; *Met.* K 6, 1063b24: According to Heraclitus it is impossible to speak the truth one way or the other. *Met.* Γ 7, 1012a24, 'the argument of Heraclitus... makes all things true', cf. Plato *Theaet.* 183A (if all things are moving every answer is correct); contrast *Met.* Γ 8, 1012b26 (see p. 95 n.).

iii Strife and opposition necessary for the continuance of a unified cosmos.

Eth. Eud. H 1, 1235a25: Heraclitus rebuked Homer for making Achilles pray that strife would depart from gods and men; for there would be no harmony without high and low, nor living creatures without male and female.—These opposites are necessary for the existence of a consequent unity. The examples from music and the sexes are probably not by Heraclitus, but are supplied either by later elaborators or by Aristotle himself. The remainder probably reproduces an actual rebuke by Heraclitus, which is attested also by Simplicius and Numenius (see DK 22A 22), who give a different consequence, that the world would be destroyed.

iv Change: Aristotle develops the Platonic interpretation.

(1) *Met.* Γ 5, 1010a7: The most extreme form of Heracliteanism is exemplified by Cratylus, who blamed Heraclitus for saying that you could not step into the same river twice; for he thought, not even once (ref. to fr. 12).

(2) *Met.* A 6, 987a29: Plato was familiar from youth with Cratylus and the Heraclitean opinions that all perceptibles are in flux, so that no knowledge of them is possible. *Met.* M 4, 1078b12 gives another version of this.

(3) *Phys.* Θ 3, 253b9: Some people say that all existing things without exception are moving all the time, but that this escapes our perception.—Compare Plato *Theaet.* 181C–E (**i** (*c*)(2) above): Aristotle simply adds to Plato's conclusion the inference that some types of movement must be invisible. This undoubtedly refers to Heraclitus and the Heracliteans, and as far as the former is concerned may involve some distortion of his real views on change.

(4) *Top.* A 11, 104b19: Heraclitus' contention that all things are moving is an example of philosophical paradox.

(5) *de caelo* Γ 1, 298b25: The first natural philosophers, among others, thought that everything was coming-to-be and in flux, but that there was a single fixed substratum, from which the things in flux were changed in various ways; Heraclitus, among others, must have meant this.—This is sheer Aristotelianism; Heraclitus' substratum, of course, is identified by Aristotle as fire.

(6) *de caelo* A 10, 279b12: All thinkers assume that the world had a beginning; Empedocles and Heraclitus think that it is in its present

condition, and then perishes, by turns (ἐναλλάξ).—This is probably a confusion of the *contrast* between Heraclitus and Empedocles at Plato *Soph.* 242E (**ii** (1) above). It is not even true, of course, that Heraclitus thought the world to have had a beginning: cf. fr. 30.

v Fire.

(1) *Met.* A 3, 984a5: Fire is the material principle (ἀρχή) according to Hippasus and Heraclitus. Cf. also *de caelo* Γ 5, 303b10; *GC* B 1, 328b33, etc.

(2) *Met.* A 8, 989a1: Fire has the finest parts of all natural bodies (μικρομερέστατον καὶ λεπτότατον, cf. ἀσωματώτατον δὴ καὶ ῥέον ἀεί, of the fiery exhalation, at *de an.* A 2, 405a25).

(3) *Phys.* Γ 5, 205a3: According to Heraclitus fire at some time becomes all things.—This refers to the basic position of fire in natural changes, cf. fr. 31: it does not suggest of itself that fire becomes all things at the same time, although in view of **iv** (6) above, an ecpyrosis interpretation cannot be excluded for Aristotle.

(4) *de an.* A 2, 405a25: Soul is always made out of the ἀρχή, therefore for Heraclitus it was 'the exhalation out of which he composes the other things...which is most incorporeal and ever-flowing...he thought that all things were in motion'.—By this exhalation Aristotle means fire. Cf. the anecdote at *de part. anim.* A 5, 645a17 (p. 3), in which the point may or may not be the fieriness of the kitchen stove (cf. D. S. Robertson, *Proc. Camb. Philol. Soc.* 169 (1938) 10).

vi Meteorology.

(1) *Meteor.* B 1, 354b33–355a21: In this passage only fr. 6 (the sun new every day) is specifically attributed to Heraclitus, but the theory that the sun feeds on moisture, and that the solstices are due to its search for food, and the criticism that the sustenance of the stars is neglected, might also refer primarily to him.

(2) [*Problemata*] xxiii, 934b33: Some of those who Heraclitize say that from fresh water stones and earth are dried out and condensed, while from seawater the sun draws its nourishment by exhalation.—This might be by Aristotle himself; the distinction is possible for Heraclitus, though in fr. 31 he uses 'sea' for cosmological water in general. [*Probl.*] xiii, 908a30 also refers to Heraclitizers, but its content seems to be influenced by Stoic ideas.

Conclusion.

Aristotle displays a more detailed knowledge of Heraclitus than Plato; the quotations he gives, though few enough, are on varied subjects and suggest that he had access to a good collection of sayings. These quotations are introduced more or less incidentally, to illustrate points of his own: their proper meaning is sometimes distorted. Aristotle seems entirely to misinterpret the opposite-doctrine, or at any rate to subject it to a kind of criticism which is really irrelevant to it: by saying that opposites were 'the same' Heraclitus did not mean 'identical' in the strict sense. Yet in **iii** above Aristotle seems to show greater understanding of the theory. The Platonic πάντα ῥεῖ interpretation is accepted, and its implications developed, e.g. that some changes are imperceptible. Fire is interpreted as the substratum of change; this is closer (though by accident) to what Heraclitus meant than is the more Platonic view. Aristotle's description of fire as the most subtle, least corporeal, and most kinetic of substances, though doubtless due to his own deduction, may summarize Heraclitus' real reasons (perhaps never consciously formulated) for the priority of fire, though it neglects the important fact that fire undergoes *regular* alteration. One passage of Aristotle (*Meteor.* B 3, 357b27, quoted on p. 379 but not above) gives river-water and flame as examples of regularity in natural processes: there is nothing to show that he had Heraclitus in mind, but this is possible, in view of the real significance of the river-statement and the priority of fire; Aristotle himself emphasizes in the *Meteorologica* that cosmic changes are balanced, and in this he may be following a line initiated by Heraclitus, just as his dual-exhalation theory may be a conscious development of Heraclitus' single exhalation from the sea. Yet the specific references to Heraclitus suggest that Aristotle was, after all, unaware of Heraclitus' emphasis on regularity in change, and that he accepted the πάντα ῥεῖ interpretation without reservation. It is uncertain whether Aristotle accepted the ecpyrosis; only one passage, **iv** (6) above, suggests that he did; there seems to be a confusion here with Empedocles (see also Table III on p. 25). Aristotle perhaps *originated* less misconception about Heraclitus than Plato did, and his distortions are at any rate carried out for a determinable motive, i.e. to reconcile Heraclitus to Aristotle's own theories.

(iii) THEOPHRASTUS AND THE DOXOGRAPHICAL TRADITION

Diels showed indisputably that the primary source of all doxographical material was the Φυσικῶν δόξαι of Theophrastus, soon epitomized into two volumes and later transmitted, in a much reduced form and with some Stoic infiltration, through a lost collection of about the first century B.C. which he called the *Vetusta Placita*, to the surviving doxographical works, of which Aëtius is the most extensive. In the case of Heraclitus certainly the detailed version of Theophrastus preserved in Diogenes Laertius (IX, 8–11) is of greater value than Aëtius. Both were susceptible to Stoic interpretations, but on the whole we have enough material to gain some idea of Theophrastus' views on Heraclitus. As is to be expected, Theophrastus was heavily influenced by Aristotle's attitude to his predecessors. It is usually maintained that Theophrastus was more objective than Aristotle, that he had more material, and that he used direct quotations to illustrate his judgements. The second point is probably true; but Theophrastus' objectivity, especially over 'metaphysical' problems, is of a very low order, and as for quotations, in the long extant fragment *On the Senses* quotation is extremely rare, and many of his judgements are no better than conjectures made, one would say, in default of relevant evidence.

It should be unnecessary here to describe in detail the affiliation of the doxographical sources, or the general principles of doxographical methods: this is all admirably presented in Diels' great *Doxographi Graeci*; a useful summary is given in Burnet's 'Note on the Sources', *EGP*[3,4], 31–8. Overleaf (pp. 22ff.) I have tried to illustrate as concisely as possible, in tabular form, how much Theophrastus depended on Aristotle and how much Theophrastus' successors depended on Theophrastus. An example of the confusion which could eventually result is given in Table III. A great deal of the relevant doxographical material which is not mentioned here is to be found under the appropriate fragments; practically all of importance is collected in the A-section of DK's chapter on Heraclitus (c. 22). There is remarkably little information in the doxography which is not to be had more accurately from the fragments; the most important is the information on Heraclitus' astronomy given in the detailed account of Diogenes (p. 270f.), and that on the great year and

the human generation (DK 22 A 13, 18, 19) discussed on pp. 295ff. To this must be added Sextus' important passage on the soul's contact with the Logos, preceding his quotation of fr. 1 (DK 22 A 16; cf. 20); this is relevant to the fragments about men rather than the cosmic ones, and full discussion of it must regretfully be postponed.

(iv) OTHER SOURCES

(a) *DE VICTU*

It has long been recognized that the first book of the Hippocratic treatise *de victu*, and especially chapters 3–24, 25, 35, contains reminiscences of Heraclitus, and efforts have been made in the past to extract new information on Heraclitus from this source. It may be said from the start that this quest is doomed to failure: not necessarily because no new material on Heraclitus exists in these chapters, but because it cannot be identified as such. So heterogeneous is the style and the source-material of the author of this treatise—a man who professes in the first chapter his intention of using other people's results, where they seem to be the right ones—that a particular passage can only be referred to a particular author when a close parallel to it already exists in that author: in this case the evidence of the treatise will be corroborative rather than original. On many of the fragments dealt with in the present work such reminiscences in the *de victu* are cited. Many other reminiscences, often running to more or less exact quotation, can be found, of Empedocles, Anaxagoras and Archelaus as well as of Heraclitus, even in these particularly Heraclitean chapters. These chapters are 'Heraclitean' mainly because the style consciously imitates the concise and paradoxical style of the fragments; further, the whole work is characterized by the dogmatism which Heraclitus manifested to a large degree. It seems likely that often what appears to be Heraclitean subject-matter will be found on examination to be purely medical (or Empedoclean, or Anaxagorean) substance clothed in a Heraclitean style. Doubtless the adoption of this style tended to influence the author's thought in the direction of Heraclitean obscurity; in fact there are places in these chapters where I would say that the author (unlike Heraclitus) simply did not know what he meant.

TABLE I. *Theophrastus' dependence on Aristotle's principles and interpretations*

THEOPHRASTUS Φυσ. δόξ. fr. 1	ARISTOTLE PARALLELS	COMMENT
Ἵππασος δὲ ὁ Μεταποντῖνος καὶ Ἡράκλειτος ὁ Ἐφέσιος	(i) *Met.* A 3, 984a7 Ἵππασος δὲ πῦρ ὁ Μεταποντῖνος καὶ Ἡράκλειτος ὁ Ἐφέσιος [sc. ἀρχὴν τιθέασι].	Hippasus presumably made fire principle because of its supposed geometrical properties; there is no real similarity with Heraclitus, with whom, however, he continued to be connected: cf. Sextus Emp. *adv. math.* x, 313; Simpl. *de caelo*, p. 615, 22 Heiberg; Diog. L. VIII, 84; etc.
ἓν καὶ οὗτοι καὶ κινούμενον καὶ πεπερασμένον,	(ii) *Phys.* A 2, 184b15 ἀνάγκη δ' ἤτοι μίαν εἶναι τὴν ἀρχὴν ἢ πλείους, καὶ εἰ μίαν ἤτοι ἀκίνητον . . . ἢ κινουμένην ὥσπερ οἱ φυσικοί . . . εἰ δὲ πλείους, ἢ πεπερασμένας ἢ ἀπείρους. . . .	Theophrastus simply applies the Aristotelian analysis. κινούμενον does not necessarily refer to the πάντα ῥεῖ interpretation, but applies to all φυσικοί (though see Aëtius I, 5, 5, in Table II); this interpretation is otherwise lacking from the Theophrastus fragment as we have it.
ἀλλὰ πῦρ ἐποίησαν τὴν ἀρχήν·	[See (i)]	
καὶ ἐκ πυρὸς ποιοῦσι τὰ ὄντα πυκνώσει καὶ μανώσει	(iii) *Phys.* A 4, 187a12 . . . οἱ μὲν γὰρ ἓν ποιήσαντες τὸ [ὂν] σῶμα τὸ ὑποκείμενον . . . τἆλλα γεννῶσι πυκνότητι καὶ μανότητι πολλὰ ποιοῦντες. Cf. *Phys.* A 6, 189b8 πάντες γε τὸ ἓν τοῦτο τοῖς ἐναντίοις σχηματίζουσιν, οἷον πυκνότητι καὶ μανότητι καὶ τῷ μᾶλλον καὶ ἧττον.	Aristotle names thickening and thinning as one means of differentiation used by the natural philosophers, separation of opposites as the other (Anaximander, Empedocles, Anaxagoras). Anaximenes certainly used πύκνωσις and μάνωσις to *explain* change; Heraclitus and others perhaps merely *described* change in terms of condensation and rarefaction (cf., for example, διαχέεται in fr. 31). Perhaps Simplicius meant this when he misleadingly wrote (*in Phys.* p. 149 Diels) that Theophrastus attributed the idea to Anaximenes alone (μόνου).
καὶ διαλύουσι πάλιν εἰς πῦρ ὡς ταύτης μιᾶς οὔσης φύσεως τῆς ὑποκειμένης.	(iv) *Met.* A 3, 983b8 ἐξ οὗ γάρ ἐστιν ἅπαντα τὰ ὄντα καὶ ἐξ οὗ γίγνεται πρώτου καὶ εἰς ὃ φθείρεται τελευταῖον, τῆς μὲν οὐσίας ὑπομενούσης τοῖς δὲ πάθεσι μεταβαλλούσης, τοῦτο στοιχεῖον καὶ ταύτην ἀρχήν φασιν τῶν ὄντων. *Phys.* Γ 5, 204b33 ἅπαντα γὰρ ἐξ οὗ ἐστι, καὶ διαλύεται εἰς τοῦτο. . . .	Theophrastus follows the Aristotelian principle that things return to the substratum from which they were originally differentiated. Fire is Heraclitus' substratum, therefore all things are changed back into fire (simultaneously, it is implied, therefore in an ecpyrosis?). For another statement of the principle see Theophrastus' introduction to the Anaximander-fragment: ἐξ ὧν δὲ ἡ γένεσίς ἐστι τοῖς οὖσι, καὶ τὴν φθορὰν εἰς ταῦτα γίνεσθαι "κατὰ τὸ χρεών· . . .". Cf. also Aëtius I, 3, 11 (Table II).
πυρὸς γὰρ ἀμοιβὴν εἶναί φησιν Ἡράκλειτος πάντα.	[(v) *Phys.* Γ 5, 205a3 . . . ὥσπερ Ἡράκλειτός φησιν ἅπαντα γίνεσθαί ποτε πῦρ.]	Heraclitus is here first distinguished from Hippasus by Theophrastus, who is dependent here directly on fr. 90, πυρός τε ἀνταμοιβὴ τὰ πάντα. . . . Cf. also Diog. L. IX, 8 (Table II). The ecpyrosis-interpretation of fr. 90 was perhaps aided by the ambiguity of (v), in which, however, ποτε suggests that if Aristotle had the fr. in mind, he interpreted it correctly.
ποιεῖ δὲ καὶ τάξιν τινὰ καὶ χρόνον ὡρισμένον τῆς τοῦ κόσμου μεταβολῆς	(vi) *de caelo* A 10, 279b14 οἱ δὲ ἐναλλὰξ ὁτὲ μὲν οὕτως ὁτὲ δὲ ἄλλως ἔχειν, φθειρόμενον [sc. τὸν οὐρανόν], καὶ τοῦτο ἀεὶ διατελεῖν οὕτως, ὥσπερ Ἐμπεδοκλῆς ὁ Ἀκραγαντῖνος καὶ Ἡράκλειτος ὁ Ἐφέσιος. For Theophrastus' terminology cf. *Meteor.* A 14, 351a25 [of changes in conformation of land and sea] κατὰ μέντοι τινὰ τάξιν νομίζειν χρὴ ταῦτα γίγνεσθαι καὶ περίοδον.	Aristotle here seems to confound Heraclitus and Empedocles (see Table III), and in this passage alone fosters the ecpyrosis-interpretation. Simplicius on (vi) (p. 294, 4 Heib.) shows that he for one was misled by taking μέτρα in fr. 30 temporally: Ἡράκλειτος . . . ποτὲ μὲν ἐκπυροῦσθαι λέγει τὸν κόσμον, ποτὲ δὲ ἐκ τοῦ πυρὸς συνίστασθαι πάλιν αὐτὸν κατά τινας χρόνων περιόδους [reminiscence of Theophrastus?] ἐν οἷς φησι "μέτρα ἁπτόμενος καὶ μέτρα σβεννύμενος". Theophrastus' words are applied, by a confusion, to Hippasus instead of Heraclitus at Diog. L. VIII, 84. Cf. also κατὰ τὴν τοῦ χρόνου τάξιν in the Anaximander-fragment, which is quoted by Theophrastus (but where the meaning is probably that *sooner or later* each opposite pays recompense).
κατά τινα εἱμαρμένην ἀνάγκην. [end of fragment]		There is no direct parallel for this phrase in Aristotle, although ἀνάγκη is used by him to account for regular but otherwise unexplained occurrences. Aëtius I, 27, 1 gives the words ἔστι γὰρ εἱμαρμένα πάντως as a quotation from Heraclitus (= fr. 137); possibly Theophrastus, who is perhaps Aëtius' source here, based his description upon some such known words of Heraclitus. But the idea was developed by the Stoics, cf., for example, Plutarch *de E* 9, 388F: ἀκούομεν τῶν θεολόγων . . . ὡς ἄφθαρτος ὁ θεός . . . ὑπὸ δή τινος εἱμαρμένης γνώμης καὶ λόγου μεταβολαῖς ἑαυτοῦ χρώμενος ἄλλοτε μὲν εἰς πῦρ ἀνῆψε τὴν φύσιν . . . ἄλλοτε δὲ παντοδαπὸς . . . γιγνόμενος. . . . So also Aëtius I, 7, 22; I, 28, 1 (certainly Stoicizing).

TABLE II. (i) *The comparative fullness and accuracy of Diogenes' detailed account;* (ii) *the close dependence of later doxographical accounts on Theophrastus*

THEOPHRASTUS fr. 1	DIOG. L. IX, 7 (summary account)	DIOG. L. IX, 8 (detailed account)	AËTIUS	EUSEBIUS *P.E.* XIV, 3, 8
Ἵππασος δὲ ὁ Μεταποντῖνος καὶ Ἡράκλειτος ὁ Ἐφέσιος			1, 5, 5 (cf. 1, 3, 11): Ἵππασος ὁ Μεταποντῖνος καὶ Ἡράκλειτος ὁ Βλόσωνος ὁ Ἐφέσιος	ὁ δὲ Ἡράκλειτος
ἓν καὶ οὗτοι καὶ κινούμενον καὶ πεπερασμένον, ἀλλὰ πῦρ ἐποίησαν τὴν ἀρχήν·	ἐκ πυρός	† (πεπεράνθαι τε τὸ πᾶν καὶ ἕνα εἶναι κόσμον.) πῦρ εἶναι στοιχεῖον	ἓν εἶναι τὸ πᾶν ἀεικίνητον [ἀκίνητον vulg., corr. Zeller] καὶ πεπερασμένον, ἀρχὴν δὲ τὸ πῦρ ἐσχηκέναι.	ἀρχὴν τῶν πάντων ἔφη εἶναι τὸ πῦρ,
καὶ ἐκ πυρὸς ποιοῦσι τὰ ὄντα πυκνώσει καὶ μανώσει καὶ διαλύουσι πάλιν εἰς πῦρ ὡς ταύτης μιᾶς οὔσης φύσεως τῆς ὑποκειμένης.	τὰ πάντα συνεστάναι καὶ εἰς τοῦτο ἀναλύεσθαι.†	‡ (ἀραιώσει καὶ πυκνώσει γινόμενα,)	1, 3, 11: ἐκ πυρὸς γὰρ τὰ πάντα γίνεσθαι καὶ εἰς πῦρ πάντα τελευτᾶν λέγουσι.	ἐξ οὗ τὰ πάντα γίνεται καὶ εἰς ὃ ἀναλύεται.
πυρὸς γὰρ ἀμοιβὴν εἶναί φησιν Ἡράκλειτος πάντα.		καὶ πυρὸς ἀμοιβὴν τὰ πάντα‡		ἀμοιβὴν γὰρ εἶναι τὰ πάντα,
	καὶ διὰ τῆς ἐναντιοτροπῆς [-τροπίας Kranz] ἡρμόσθαι τὰ ὄντα.	σαφῶς δ' οὐδὲν ἐκτίθεται. γίνεσθαί τε πάντα κατ' ἐναντιότητα		
		καὶ ῥεῖν τὰ ὅλα ποταμοῦ δίκην· †	[1, 23, 7: Ἡράκλειτος ἠρεμίαν μὲν καὶ στάσιν ἐκ τῶν ὅλων ἀνῄρει· ἔστι γὰρ τοῦτο τῶν νεκρῶν. Cf. DK 22 A 22.]	† (οὐδὲ μὲν οὖν πάντα κινεῖσθαι ἔφασαν.)
ποιεῖ δὲ καὶ τάξιν τινὰ καὶ χρόνον ὡρισμένον τῆς τοῦ κόσμου μεταβολῆς		γεννᾶσθαί τε αὐτὸν ἐκ πυρὸς καὶ πάλιν ἐκπυροῦσθαι κατά τινας περιόδους ἐναλλὰξ τὸν σύμπαντα αἰῶνα·		χρόνον τε ὡρίσθαι τῆς τῶν πάντων εἰς τὸ πῦρ ἀναλύσεως καὶ τῆς ἐκ τούτου γενέσεως.†
κατά τινα εἱμαρμένην ἀνάγκην.	† (πάντα δὲ γίνεσθαι καθ' εἱμαρμένην)	τοῦτο δὲ γίνεσθαι καθ' εἱμαρμένην.	1, 27, 1: πάντα καθ' εἱμαρμένην, τὴν δ' αὐτὴν ὑπάρχειν ἀνάγκην [fr. 137 follows].	
	καὶ πάντα ψυχῶν εἶναι καὶ δαιμόνων πλήρη (cf. Aristotle v (4) on p. 18). [For remainder of this account see p. 9]	[For remainder of this account see see pp. 328, 270f.]		

TABLE III. *An example of progressive confusion between Heraclitus and Empedocles, initiated perhaps by Aristotle and aggravated by Heraclides Lembus*

HERACLITUS

Fr. 80...τὸν πόλεμον ἐόντα ξυνὸν καὶ δίκην ἔριν....

Fr. 51...διαφερόμενον ἑωυτῷ συμφέρεται· παλίντονος ἁρμονίη κτλ.

PLATO

Sophist 242 D, E Ἰάδες δὲ καὶ Σικελαί τινες ὕστερον Μοῦσαι [i.e. Heraclitus and Empedocles] συνενόησαν ὅτι συμπλέκειν ἀσφαλέστατον ἀμφότερα καὶ λέγειν ὡς τὸ ὂν πολλά τε καὶ ἕν ἐστιν, ἔχθρᾳ δὲ καὶ φιλίᾳ συνέχεται. διαφερόμενον γὰρ ἀεὶ συμφέρεται, φασὶν αἱ συντονώτεραι τῶν Μουσῶν [i.e. Heraclitus], αἱ δὲ μαλακώτεραι [i.e. Empedocles] τὸ μὲν ἀεὶ ταῦθ' οὕτως ἔχειν ἐχάλασαν, **ἐν μέρει** δὲ τοτὲ μὲν ἓν εἶναί φασι τὸ πᾶν καὶ φίλον ὑπ' Ἀφροδίτης, τοτὲ δὲ πολλὰ καὶ πολέμιον αὐτὸ αὑτῷ διὰ νεῖκός τι.

ARISTOTLE

de caelo A 10, 279 b 14...οἱ δ' ἐναλλὰξ ὁτὲ μὲν οὕτως ὁτὲ δὲ ἄλλως ἔχειν, φθειρόμενον [sc. τὸν οὐρανόν], καὶ τοῦτο ἀεὶ διατελεῖν οὕτως, ὥσπερ Ἐμπεδοκλῆς ὁ Ἀκραγαντῖνος καὶ Ἡράκλειτος ὁ Ἐφέσιος.

[THEOPHRASTUS] ⟶ [Stoic ecpyrosis-interpretation; cf. e.g. Plutarch *de E* 9, 388 F, quoted in Table I.]

[SOTION]

HERACLIDES LEMBUS (author of an epitome of Sotion's *Successions* in which Empedocles and Heraclitus were made successors of Pythagoras according to Joseppus' index; cf. *Doxographi* 149)

[Confusion of Heraclitus and Empedocles as followers of Pythagoras, holding similar beliefs]

(*Chronological tradition*, opposed to Apollodorus and making Heraclitus roughly contemporary with Empedocles)

EUSEBIUS

P.E. x, 14, 15 τὸν μὲν οὖν Πυθαγόραν διεδέξατο Θεανὼ ἡ γυνὴ οἵ τε υἱοὶ αὐτοῦ Τηλαύγης καὶ Μνήσαρχος, Τηλαύγους δ' Ἐμπεδοκλῆς ἀκουστὴς γίνεται, καθ' ὃν Ἡράκλειτος ὁ σκοτεινὸς ἐγνωρίζετο.

[Eusebius *Chronica*: Heraclitus *fl.* Ol. 80, 1 (460–459 B.C.)
Empedocles *fl.* Ol. 81, 1 (456–455 B.C.);
similarly the *Chronicum Romanum*. See Jacoby *Apollodors Chronik* 229–31.]

HERMIAS

Irr. Gent. Philos. 13 [Heraclitus] ἀρχὴ τῶν ὅλων τὸ πῦρ, δύο δὲ αὐτοῦ πάθη ἀραιότης καὶ πυκνότης [from Theophr.], ἡ μὲν ποιοῦσα ἡ δὲ πάσχουσα [Stoic], ἡ μὲν συγκρίνουσα ἡ δὲ διακρίνουσα. Cf. *ibid.* 8 [Empedocles] ἀρχαὶ τῶν πάντων ἔχθρα καὶ φιλία, ἡ μὲν συνάγουσα ἡ δὲ διακρίνουσα.

HIPPOLYTUS

Philosophoumena 3 οὗτος [sc. Emped.] τὴν τοῦ παντὸς ἀρχὴν νεῖκος καὶ φιλίαν ἔφη καὶ τὸ τῆς μονάδος νοερὸν πῦρ τὸν θεὸν [Stoic] καὶ συνεστάναι ἐκ πυρὸς τὰ πάντα καὶ εἰς πῦρ ἀναλυθήσεσθαι,* ᾧ σχεδὸν καὶ οἱ Στωικοὶ συντίθενται δόγματι.... *Ibid.* 4 [Heraclitus] καὶ αὐτὸς δὲ σχεδὸν σύμφωνα τῷ Ἐμπεδοκλεῖ ἐφθέγξατο, στάσιν καὶ φιλίαν [cf. Plato above] φήσας τῶν ἁπάντων ἀρχὴν εἶναι καὶ πῦρ νοερὸν τὸν θεὸν συμφέρεσθαί τε τὰ πάντα ἀλλήλοις καὶ οὐχ ἑστάναι.

[The source of *Philosophoumena* 1–5 took Her. and Emp. to be followers of Pythagoras; cf. also 3, 3 and 4, 3: so Diels *Doxographi* 145.]

* Cf. Clement *Strom.* v, 103, 6, who attributes a purification by fire, of a similar kind, to Empedocles and Heraclitus.

Three particular notions may be mentioned. (1) The reaction between fire and water (I, 3 'fire can move all things throughout, water can feed all things throughout') is accepted by Burnet (150f., after Lassalle II, 142) as a genuinely Heraclitean concept: but there is no evidence for it in the fragments, in fact there is evidence against—what is to happen about earth, which is a world-mass on an equal footing with sea? Admittedly the idea that fire fed on water is probably present in Heraclitus, but this is a widespread and doubtless almost prehistoric concept. See also on fr. 6. (2) The crafts which are adduced as instances in chapters 12–24 in some cases coincide with specific illustrations used by Heraclitus, whose practical examples of this type may have been expanded by followers to apply in many of the τέχναι; one would not deny that some of these chapters are based upon a Heraclitean source. (3) The unusual image of the two men sawing wood (e.g. I, 6 'the one pulls, the other pushes. They are doing the very same thing; but by doing less they are doing more') seems to the present writer to have a more archaic ring than most other Heraclitizing instances in this treatise: but this is the most that can be said.

What gave the *de victu* special importance as a possible source of material for Heraclitus, in the eyes of the scholars of the last century, was its supposed early date of around 400 B.C. Zeller, for example, who had at his disposal the results of the investigations of Lassalle, Schuster, Teichmüller, Ilberg and others, concluded (ZN 873) that the treatise came from the hand of a doctor of the first decade of the fourth century B.C. In 1899 Carl Fredrich published his *Hippokratische Untersuchungen* (*Ph.U.* 15, 1899), which subjected the whole treatise (the non-Heraclitizing parts of which had previously suffered neglect) to a detailed examination; he, too, using some new criteria, assumed 400 B.C. as the approximate date of composition. Diels (*Herakleitos*[2] XIII) mentioned the end of the fifth century. Further detailed study by A. L. Peck (in his unpublished Cambridge doctoral thesis, 1928, which was not, however, particularly concerned with dating problems) and A. Palm (Diss. Tübingen, 1933) has not produced any amendment of the traditional date. However, as early as 1839 Petersen (Diss. Hamburg) had suggested that the work should be dated around 320; Schuster also regarded it as post-Aristotelian. This dating was ridiculed by Fredrich and others, but recently Werner Jaeger, *Paideia* III (Eng. trans.[3], Oxford, 1946),

36ff., has argued in favour of a later date. This question is not, as Zeller maintained, of merely subordinate importance for the study of Heraclitus; for if *de victu* was composed at the time of Aristotle or shortly afterwards, and not around 400, then it must relinquish its claim to be an independent testimony written at a time when full Heraclitean materials were available. It becomes probable that it reflects the Platonic and Aristotelian interpretation of Heraclitus, and that its sources for him were no more extensive than those of, for example, Theophrastus, who complained not once only that Heraclitus 'made nothing clear'—a complaint which I take to mean primarily that Theophrastus' sources were inadequate.

My own view, which can only be summarized here, is that the treatise was written after the middle of the fourth century, and probably underwent some Peripatetic influence (*contra* Jaeger). The conventional date around 400 rests ultimately upon two assumptions: first, that a synthetic physical theory based upon Heraclitus, Parmenides, Empedocles, Anaxagoras, Archelaus and Pythagorean writings, must have been produced in the so-called 'period of eclecticism' at the close of the fifth century; and secondly, that the investigations into diet and the effects of different foods are similar in character to those of Diocles of Carystus, and belong to the same period (cf., for example, Fredrich, *op. cit.* 223). The first assumption is of no value: eclecticism was not restricted to the period of a Diogenes of Apollonia or a Hippon. With the second assumption I agree. But Jaeger has now conclusively shown (*Diokles v. Karystos*, Berlin, 1938; 'Vergessene Fragmente des Peripatetikers Diokles von Karystos', *Abh. der Preuss. Akad. der Wissenschaft*, 1938 (Phil.-hist. Kl.) 3, 1–46: summarized in *Philosophical Review* 49 (1940) 393ff.) that Diocles worked much later than was formerly believed, and was in fact a member of the Lyceum and a near contemporary of Theophrastus. The author of *de victu* may have been a generation older. Thus Diocles seems to have used *de victu* as a source for his two books to Plistarchus on Hygiene; cereals are named in the same unusual order in each work, and one criticism by Diocles preserved by Galen applies admirably to the author of *de victu*. The latter, indeed, implied in his opening chapter that a number of works on diet had been written by his time; this fits the later fourth century better than any earlier period, for although the main ideas of the treatise could have been held at the end of the fifth

are certainly the most promising from this point of view, though here again much of what looks like Heraclitean matter is probably merely Stoic (e.g. god as establisher of measure in the world is probably Posidonian; cf. *de mundo*); in both, the stylistic similarity to the Heraclitizing parts of *de victu* is noticeable; the style is an exaggerated parody of the fragments.

(v) CONCLUSION

The conclusion from the foregoing survey of the ancient evidence is that it is incomplete and unreliable. The closest sources to Heraclitus are Plato and Aristotle, and though they tell us much of value their information is apt to be distorted by the demands of their own context or, in the case of Aristotle, the desire to find predictions of his own conclusions in the works of his predecessors. Theophrastus did not succeed in throwing off Aristotelian presuppositions, and thus the whole of the doxographical tradition (as well, it may be added, as Sceptic and Stoic accounts) is to some extent infected. Cherniss has shown irrefutably in his *Aristotle's Criticism of Presocratic Philosophy* the extent and the serious nature of Aristotle's historical perversions; in the case of Heraclitus it can be seen that Plato too, with his misleading πάντα ῥεῖ interpretation (see under Group 11, pp. 366ff.), has done irreparable damage to the whole ancient tradition. The result is that the present-day scholar who wishes to gain the clearest possible idea of what Heraclitus thought must resort in the first instance to the actual surviving fragments, and must base his reconstruction primarily upon these, using the ancient indirect evidence as ancillary. In these circumstances the fragments themselves must be subjected to the most careful possible examination of authenticity and content; hypothetical interpretations must not be given credence until they are adequately corroborated by other fragments. In the pages that follow an attempt is made to subject about half the total number of fragments, those describing the world as a whole rather than men in particular, to this kind of treatment.

THE COSMIC FRAGMENTS

NOTE. Diels' numbering of fragments is followed; Bywater's number, accepted by Burnet, is given in parentheses in the main heading, as, for example, (2B).

In the initial quotation and translation of each fragment, heavy type (Greek) and roman type (English) are intended to distinguish Heraclitus' own words, or a very near equivalent.

Paraphrases formerly accepted as fragments are normally distinguished from their context, if this is quoted, by broken underlining. They are referred to as, for example, fr. 73D, where D (for Diels) means that the saying in question was treated as a genuine fragment by Diels (except that fragments after 126 were classed by him as doubtful or false), but is here considered as a paraphrase. In the group headings, 'Fr. 1 [+73D]', for example, signifies that the paraphrase treated in DK as fr. 73 is here considered during the discussion of the genuine fragment 1.

The whole of the relevant context is given for each fragment; where the main extract ends with the fragment itself it means that what follows in the ancient source plainly does not bear on the interpretation of the quotation.

GROUP 1

Frr. **1** [+73D], **114** [+113D], **2** [+89D], **50**

The Logos according to which all things come to be is 'common' in two senses: it is universal, and it is equally apprehensible by all. Heraclitus explains the nature of this Logos, yet men still fail to recognize it and live as though in a private world—though anyone of sense bases his behaviour on what is universally valid, like Law. The apprehension of the Logos is wisdom, and the chief content of the Logos is that all things are one.

I

(2B)

Sextus Empiricus *adv. math.* VII, 132 ἐναρχόμενος γοῦν τῶν περὶ φύσεως ὁ προειρημένος ἀνὴρ καὶ τρόπον τινὰ δεικνὺς τὸ περιέχον φησί· **τοῦ δὲ[1] λόγου τοῦδ' ἐόντος ἀεὶ[1] ἀξύνετοι γίνονται[2] ἄνθρωποι καὶ πρόσθεν ἢ ἀκοῦσαι καὶ ἀκούσαντες τὸ πρῶτον. γινομένων γὰρ πάντων[3] κατὰ τὸν λόγον τόνδε ἀπείροισιν[4] ἐοίκασι πειρώμενοι καὶ ἐπέων καὶ ἔργων τοιούτων ὁκοίων ἐγὼ διηγεῦμαι, κατὰ φύσιν διαιρέων[5] ἕκαστον καὶ φράζων ὅκως ἔχει· τοὺς δὲ ἄλλους ἀνθρώπους λανθάνει ὁκόσα ἐγερθέντες ποιοῦσιν ὅκωσπερ ὁκόσα εὕδοντες ἐπιλανθάνονται.** διὰ τούτων γὰρ ῥητῶς παραστήσας ὅτι κατὰ μετοχὴν τοῦ θείου λόγου πάντα πράττομέν τε καὶ νοοῦμεν, ὀλίγα προδιελθὼν ἐπιφέρει· (seq. fr. 2).

1 τοῦ δὲ, ἀεὶ om. Sextus: δὲ Hippolytus, om. Clemens, Aristoteles: τοῦ δέοντος Aristot.$^{Ac\,Tr.}$, Clem., Hippol.; τοῦ ὄντος Aristot.$^{\Theta\Pi\ Ald.}$ 2 γίνονται Sextus^{N}, Hippol.; γίγνονται Sextus vulg., Aristot. 3 πάντων Hippol., om. Sextus. 4 ἀπείροισιν Sextus^{N}, ἄπειροι Sextus vulg.; ἄπειροι εἰσὶν (pro ἐοίκασι) Hippol. 5 διερέων κατὰ φύσιν (om. ἕκαστον) Hippol.

At the beginning of the writings on nature the aforementioned man, in some way indicating the [illegible]s which is as I describe it men always prove to be uncomprehending, both before they have heard it and when once they have heard it. For although all things happen according to this Logos, they [men] are like people of no experience, even when they experience such words and deeds as I explain, when I distinguish each thing according to its constitution and declare how it is; but the rest of men fail to notice what they do after they wake up just as they forget what they do when asleep.—*Hereby he expressly propounds that we do and think everything by partaking in the divine Logos; and a little further on he adds:* (*fr.* 2 *follows*).

The first clause of this fragment is reported also by Aristotle, *Rhet.* Γ 5, 1407b14 (DK 22A4), quoted below. Clement, *Strom.* V, 3, 7 (II, p. 401 Stählin), quotes τοῦ λόγου–πρῶτον. Hippolytus gives the next most complete version after Sextus: *Ref.* IX, 9, 3 (p. 241

Wendland) has, with slight variations, all down to φράζων ὅκως ἔχει. Here the quotation is introduced by the words ὅτι δὲ λόγος ἐστὶν ἀεὶ τὸ πᾶν καὶ διὰ παντὸς ὤν, οὕτως λέγει. This shows that Hippolytus connected ἀεί with ἐόντος and not with ἀξύνετοι; so also Amelius *ap.* Eusebium *P.E.* XI, 19 (= Theodoretus *Therap.* II, 88; Cyrillus IX, 936 Migne) καὶ οὗτος ἄρα ἦν ὁ λόγος καθ' ὃν αἰεὶ ὄντα τὰ γινόμενα ἐγίνετο, ὡς ἂν καὶ ὁ Ἡράκλειτος ἀξιώσειε. Aristotle in the passage cited above had stated the ambiguity of ἀεί: τὰ γὰρ Ἡρακλείτου διαστίξαι ἔργον διὰ τὸ ἄδηλον εἶναι ποτέρῳ πρόσκειται, τῷ ὕστερον ἢ τῷ πρότερον, οἷον ἐν τῇ ἀρχῇ τοῦ συγγράμματος· φησὶ γάρ "τοῦ λόγου...γίγνονται"· ἄδηλον γὰρ τὸ ἀεὶ πρὸς ποτέρῳ δεῖ διαστίξαι. Aristotle himself suggested no answer to the problem; modern scholars have for the most part concurred with the view of Hippolytus and Amelius that ἀεί qualifies ἐόντος: so Zeller (ZN 792), Diels, Capelle (*Hermes* 59 (1924) 190ff.), Gigon (*Untersuchungen* 1ff.), Verdenius (*Mnemosyne* 13 (3rd series, 1947) 279). Recently the other view has been strongly argued, that ἀεί goes with ἀξύνετοι: so Reinhardt (*Parmenides* 217), Snell (*Hermes* 61 (1926) 366), Busse (*Rh.M.* 75 (1926) 206f.), Kranz in DK.[1] I support this latter view, on the ground that ἀεί seems to lead up to and include the alternatives which follow, 'both before they have heard it and when once they have heard it'; so Snell. Busse adequately refuted Capelle's objections against this connexion, the chief of which are as follows:

(1) ἀεὶ ἀξύνετοι γίνονται is an unnatural conjunction of positive and negative words; to express this idea Heraclitus would have said οὔποτε ξυνιᾶσιν; cf. οὐ ξυνιᾶσιν in fr. 51.—But ἀξύνετοι for Heraclitus is in sense, if not in form, a positive attribute of the many.

(2) ἀκούσαντες τὸ πρῶτον restricts the universality of ἀεί.—But Capelle failed to see that τὸ πρῶτον here means 'once', 'at all', as frequently in Homer (v. LSJ s.v., III e), and not 'for the first time', with the implication that later they will cease to be ἀξύνετοι.

(3) τοῦ δὲ λόγου τοῦδ' ἐόντος ἀεὶ is deliberately balanced with τοῦ λόγου δ' ἐόντος ξυνοῦ in fr. 2: so Gigon 3; in each case Heraclitus stresses a single attribute of the Logos.—It is unnecessary to assume that the balance of clauses would extend to fr. 2, which Sextus

[1] The suggestion of Gigon *loc. cit.* that ἀεί, while certainly qualifying ἐόντος, might also go with ἀξύνετοι, is rejected by Verdenius: I agree that such an ἀπὸ κοινοῦ is impossible. Kranz now supports Gigon's opinion, in *Rh.M.* 93 (1950) 82.

suggested (ὀλίγα προδιελθών) was not immediately continuous with fr. 1; I agree with Capelle that ἐόντος expects a predicate, but believe contrary to him that in fr. 1 τοῦδ' forms such a predicate.

This introduces the second problem in the interpretation of these opening words: the meaning of τοῦδ' ἐόντος. Those who connect ἀεί with ἐόντος translate either 'existing for ever' (cf. fr. 30 ἦν ἀεὶ καὶ ἔστιν καὶ ἔσται) or 'being for ever true' (ὤν = 'being true' or 'really existent' at Herodotus I, 30 τῷ ἐόντι χρησάμενος; *idem* I, 95 λόγον ἐόντα λέγειν; Aristophanes *Frogs* 1052: cf. the Hippocratic *Ancient Medicine* 1 τέχνης ἐούσης, i.e. 'a real art'. So Burnet 133). This seems to be grammatically possible and certainly expresses something which Heraclitus believed; it is to be rejected only on the ground that ἀεί goes rather with ἀξύνετοι. On the other hand, some scholars who accept this last connexion try to retain the meaning ἐόντος = 'being true': so Tannery, *Pour l'Histoire de la Science Hellène*[2] (1930) 198, and Reinhardt, *Parmenides* 217, who translates: 'Dies Denkgesetz besteht, ist wahr, und doch begreifen es die Menschen nie.' This is indeed difficult, and Busse pointed out that ὁ λόγος ἔστι can scarcely occur in any kind of Greek with the sense 'the λόγος is true'. The addition of an adverb like ἀεί makes this kind of sense more possible; but since we consider τοῦ δὲ λόγου τοῦδ' ἐόντος to be a phrase complete in itself, the only possible meaning for it is 'the Logos being *this*', that is, 'being as I have described it' or 'being as I am about to describe it'. It is true that τοιοῦδ' might have been expected, though it is not essential; on the other hand, the fact that τόνδε is not predicative in κατὰ τὸν λόγον τόνδε does not tell against its predicative use earlier. Whether τοῦδ' refers forward or backward here depends upon the degree of literalness which is to be accorded to the information of Aristotle and Sextus that fr. 1 stood at the beginning of Heraclitus' treatise. Even Sextus' ἐναρχόμενος γοῦν τῶν περὶ φύσεως need not necessarily mean that these were the very first words in the book, as Capelle 202 and others saw; he suggested that some general proposition such as Λόγος πάντων κρατεῖ came at the very beginning.[1] Verdenius,

[1] Aall, *Ztschr. f. Philos.* 106 (1895) 234, and Gilbert, *N. Jahrb.* 23 (1909) 177, had earlier suggested that some generalization on the nature of Logos preceded fr. 1; while Schuster, *Heraklit v. Ephesos* 14, and Bywater in his edition, in attempting to reproduce the order of Heraclitus' book, placed one or two other extant fragments before fr. 1.

however, made the pertinent objection (p. 271) that any general definition of Logos would have been quoted by Sextus, being just as relevant to his purpose as the words which he does in fact preserve; though the opening sentence might have been missing from his source. Great play has been made with δέ in the first sentence of the fragment; it is now clear that the occurrence of the particle need not entail any preceding sentence, or a title descriptive of contents. An inceptive δέ occurred, apparently, at the very beginning of the work of Ion of Chios (fr. 1 ἀρχὴ δέ μοι τοῦ λόγου...) and of pseudo-Philolaus (fr. 1 ἁ φύσις δ' ἐν τῷ κόσμῳ ἁρμόχθη). Verdenius 274f. adds the occurrence of δέ in the opening sentences of Xenophon's *Apology* and *Oeconomica*; this, however, is probably due to the fact that Xenophon's works were arranged to be read continuously. In the true inceptive uses δέ has no connective sense but some of its original force as a weaker form of δή. Thus there is no need to suppose that it here refers to a lost title containing the word λόγος or λέγει: Zeller, ZN 792, had suggested Λόγος περὶ φύσεως; Wilamowitz, *Herakles*[2] 186, and Diels, something like 'Ἡράκλειτος Βλόσωνος 'Εφέσιος τάδε λέγει'. Undoubtedly when the sayings of Heraclitus were first recorded some such introductory identification or 'seal' was made, just as, in a slightly fuller form, Hecataeus and later Herodotus and Thucydides announced their authorship in the first sentence; but if δέ is to be explained as referring to a preceding use of λόγος or λέγει, then as Reinhardt pointed out λόγου *must* refer to Heraclitus' own 'Word' or book. The meaning of λόγος will be discussed below, but it may be said here that such a restriction of sense, even if not totally applied, is highly undesirable. Reinhardt escapes the difficulty by not reading δέ, which is of course only attested by Hippolytus; but while the particle might naturally have been omitted by Aristotle and Sextus it is difficult to see why it should have been added by Hippolytus, whose context does not require it. On the whole I consider that an ambiguous translation such as that proposed above, 'Of the Logos which is *as I describe it*', best reproduces the implications of the Greek: Heraclitus' views must have been expressed orally before ever they were committed to writing, whether this last event took

[1] A. M. Frenkian, *Héraclite d'Éphèse* (Cernăuţi, 1933) 15, proposed a longer introduction, e.g. 'Ἡράκλειτος Βλόσωνος 'Εφέσιος τάδε λέγει ἵνα τοὺς ἀνθρώπους διδάξῃ τὸν λόγον, καθ' ὃν πάντα γίνεται· τοῦ δὲ λόγου κτλ.

place during his lifetime or later; and a backward reference to his already familiar pronouncements on the Logos may well be intended, as well as a forward reference to the description given in fr. 1 and others of this group.—Before leaving this particular problem it should be remarked that the genitives of the first phrase depend upon ἀξύνετοι and are clearly not absolute.[1]

It is now possible to consider the meaning of λόγος in fr. 1; the word has been merely transliterated in the main translation in order to avoid prejudging the issue. Burnet 133 n. 1 translated 'Word', and held that 'the λόγος is primarily the discourse of Herakleitos himself; though, as he is a prophet, we may call it his "Word"'. This view, in all its simplicity, has not won acceptance for the good reason that in fr. 50, where plainly the same kind of λόγος is under discussion, λόγος is formally distinguished from the speaker: οὐκ ἐμοῦ ἀλλὰ τοῦ λόγου ἀκούσαντας. However, if λόγος could mean not only the book or, better, the discourse of Heraclitus, but also the content of this discourse, then a valid contrast could be made between Heraclitus himself and the Logos. Snell, *Hermes* 61 (1926) 365, ingeniously maintained that this duality of meaning is possible: 'Logos ist das Wort, soweit es sinnvoll ist; λέγειν ist: etwas meinen.' In other words, 'meaning' is one of the basic senses of the root λεγ-; the Logos is Heraclitus' meaning, transmitted through the medium of his words, and his meaning is also the meaning which he sees in things. U. Hölscher, *Varia Variorum: Festgabe f. Karl Reinhardt* (Münster, 1952) 69ff., developed Snell's idea that the paradoxical truth about things is deliberately reproduced in Heraclitus' own paradoxes; Logos, he thinks, has much of the meaning of 'oracular response'. The inclusive sense of the word was accepted also by Gigon 4f., who took it to mean 'the truth in things as

[1] On the subject of an introductory sentence or title Verdenius 272 ff. has tried to prove that περὶ φύσεως in Sextus and Diog. L. IX, 5 was an original title, and not as is sometimes thought a convenient form invented by Peripatetic historians for any work on natural philosophy by those whom Aristotle called οἱ φυσικοί. His arguments both here and in his thesis, *Parmenides. Some Comments on his Poem* 73 f., are not convincing. On p. 272 of the article he supports a statement that 'in the 5th and 4th centuries Περὶ φύσεως was obviously regarded as the authentic title of early philosophical works' by citing, among other passages no more convincing, *Ancient Medicine* 20 'Εμπεδοκλῆς ἢ ἄλλοι οἳ περὶ φύσεως γεγράφασιν. This kind of argument will find few supporters.

revealed by my book'; by Kranz in DK, who translates the opening words 'Für der Lehre Sinn aber, wie er hier vorliegt, gewinnen die Menschen nie ein Verständnis...'; and by Verdenius 276–8, who well observes that for the early Greek thinkers there was no sharp dividing line between the man who knows and the thing known; this is particularly clear in Parmenides, but it was an assumption shared by Heraclitus in his use of λόγος.[1] But Verdenius' translation 'argument' does not really suffice. In fact, although Snell's contention is attractive, I do not believe that there is necessarily any reference implied by the word λόγος in fr. 1 or any other extant fragment to the actual words or teaching of Heraclitus; and even if there is, it is clearly the meaning of this teaching, the objective sense, which it is important to examine. The real reference to Heraclitus' own presentation of the truth which he claimed to have discovered lies in the word τοῦδ'. Now the root λεγ- basically implies 'picking out' or 'choosing'; from this comes the sense 'reckoning', and so 'measure' and 'proportion'. This group of meanings is at least as primary as the sense 'account' or 'discourse' taken as basic by Zeller. E. L. Minar ('The Logos of Heraclitus', *CP* 34 (1939) 323 ff.) well suggested that 'account' reproduces the ambiguity of λόγος in its two senses of *narrative* and *accounting*. A further development, either directly from 'reckoning' or by way of 'measure' and 'proportion', leads to the sense 'systematic formula', thence 'plan' and even 'law' (as, for example, in 'physical laws'). Yet by the time of Heraclitus all these senses, and others too, were legitimate, and it is not surprising to find that the word is used by him in at least three different senses; the only point in trying to establish a 'basic' sense is that when he uses the word to stand for an undefined abstract concept it is more likely to be a 'basic' and underived meaning which he has in mind. An examination of other extant occurrences of the word in Heraclitus, where the meaning can be determined from the context, may show that for him there was

[1] Verdenius rightly rebukes those who attribute too much significance to the community of the subject and object of thought, and doubtless when, for example, Th. Gomperz, *Greek Thinkers* 1, 75, wrote of the community of man and nature at this period he may have been taking too much for granted. Nevertheless, it is clear that Heraclitus considered his discovery to affect *all* things directly, including man; it was of this general community, not a specific one revealed by the bipartite application of the word λόγος, that H. Slonimsky, *Heraklit u. Parmenides* (1912) 30, was thinking.

one sense which came to mind more commonly than others. In fr. 2 the meaning of λόγος is presumably the same as in fr. 1, and similarly cannot be clearly determined from the context; we learn there that the Logos is 'common'. In fr. 50 listening to the Logos leads to the acknowledgement that 'all things are one'. In fr. 108 ὁκόσων λόγους ἤκουσα plainly means 'whose accounts [or perhaps 'whose words'] I have heard', and in fr. 87 the meaning is simply 'word': but it has been shown that this sense would not do in fr. 50, and hardly in fr. 2. In fr. 39 οὗ πλείων λόγος means something like 'who was of more account', or possibly 'who was of greater measure'. In frr. 31, 45, 115, the sense of λόγος is undoubtedly that of 'measure'. This, then, judged by purely statistical criteria, is the most common meaning in the extant fragments; it has already been suggested that this meaning is an early derivative from the root-meaning. Miss K. Freeman, *Companion to the Presocratics* 116, has well stressed that the concept of measure is implicit in the Logos of Heraclitus. But 'Of the measure, which is as I describe it, men are uncomprehending...', 'the measure being common...', 'listening not to me but to the measure...'—this makes but little sense. Nevertheless, 'measure' is not far from the most plausible sense, and it is mainly a question of finding an English word which would not seem too strained. This may be an impossible task: what we are trying to summarize is an idea like 'the organized way in which (as Heraclitus had discovered) all things work'; 'plan' (in a non-teleological sense), 'rule', even 'law' (as in 'the laws of force') are possible summaries. 'Principle' is too vague; I suggest the less ambiguous if more cumbersome phrase 'formula of things' as a translation of λόγος in frr. 1, 2, 50. In this formula the idea of measure is implicit, as will become clear from a consideration of fragments of Groups 10 and 11.

This interpretation of Logos is not new, although the way in which it is reached is not the usual one. Diels in *Herakleitos*[2] on fr. 1 added the translation 'Weltgesetz' to that of 'Wort'; Capelle 197 found that 'dieser Logos das allem Geschehen zugrunde liegende Gesetz meint', but maintained that this 'law' was the law of eternal change—in other words, that the idea of 'measure' is not present in Logos; while Busse, *Rh.M.* 75 (1926) 207, who separated ἀεὶ from λόγου in the opening of fr. 1, according to the interpretation advanced here was more correct in asserting that 'Der Kern der neuen Lehre aber ist der Gedanke des Weltgesetzes, der unverbrüch-

lichen Gesetzmässigkeit des Weltlaufes'. Gigon 4f. destroyed the effects of his own caution that λόγος in fr. 1 must have a specific, and not a general philosophical, sense, by translating it simply as 'truth' (as well as Word or book), a meaning which is quite foreign to Heraclitus; although that the content of the Logos was completely true cannot be doubted, cf. Jaeger *Theology* 112. The lack of the positive content which informs all other Heraclitean uses of the word must be set against Snell's interpretation, adopted by Kranz, of 'meaning', and also the 'argument' of Verdenius. Demonstrably false interpretations abound: most surprising is Reinhardt's 'Denkgesetz' (*Parmenides* 61, 217, 219; cf. also M. Wundt, *Arch. f. Gesch. d. Philos.* 20 (1907) 451), which he assimilates to κρῖναι δὲ λόγῳ πολύδηριν ἔλεγχον in Parmenides fr. 7, 5. The interpretation Logos = Reason occurs in the bizarre treatments of Hönigswald (*Philosoph. d. Altertums*[2] 67ff.), Binswanger (*Die Antike* 11 (1935) 1ff.), and Brecht (*Heraklit. Ein Versuch über den Ursprung der Philosophie* passim); its acceptance displays an inability to dissociate the word from its later implications. Even the much more subtle examination by E. Hoffmann (*Die Sprache u. d. archaische Logik* 1ff.) of the connexion between the organization perceptible in things and the rational expression of it in words is not perhaps germane to Heraclitus; while Löw's supposition that λόγος means 'abstract idea' and refers specifically to the λόγος of Parmenides can be dismissed, quite apart from questions of date.

To proceed to the rest of the fragment: the meaning of γίνονται in ἀεὶ ἀξύνετοι γ. is admirably explained by Verdenius 280: 'The outcome of his [sc. Heraclitus'] experience is expressed by the term γίνονται: their coming across the λόγος results in incomprehension. Γίγνομαι often implies the idea of a result....' (Of the passages quoted in illustration of this statement the clearest is Thuc. 1, 87, 3 ἀναστάντες δὲ διέστησαν, καὶ πολλῷ πλείους ἐγένοντο οἷς ἐδόκουν αἱ σπονδαὶ λελύσθαι.) In the following sentence, Gigon 3 sees in γινομένων γὰρ πάντων a deliberate contrast with the verb εἶναι applied to the Logos—a contrast which anticipates the Platonic one between the being of eternal Forms and the becoming of transient and not fully real phenomena. Now it is undoubtedly true that, whether or not he attached the word ἀεί to the Logos, Heraclitus would have agreed that the formula of things is unceasingly valid; in fr. 30 he states that the κόσμος of things, which must be the

manifestation of this formula, is eternal. Undoubtedly, too, γίνεσθαι is a verb which may be accurately applied to things in general, none of which does not ultimately change and become something else. But whether the contrast between εἶναι and γίνεσθαι was one which Heraclitus deliberately made, and one which was instrumental in the further shaping of his ideas, is extremely doubtful; if it was, it is surprising that no formal statement (rather than accidental examples) of the contrast has survived.

Certainly γινομένων γὰρ πάντων is concessive, and πειρώμενοι may be too, although it could equally well be temporal: 'even if (*or* even when) they experience my words.' The word-play between ἀπείροισιν and πειρώμενοι is presumably intentional, as in frr. 2, 28, 48, 114 with other pairs of words; in the present case it is simply a stylistic trick and can imply no underlying connexion of sense between the similar word-forms, for the connexion is quite obvious. The phrase καὶ ἐπέων καὶ ἔργων has been well accounted for by Schottländer, *Hermes* 62 (1927) 444, as an epic formula, as in, for example, *Il.* XV, 234; *Od.* II, 272. In the Homeric poems the formula ἔργον τε ἔπος τε or ἠ ἔπει ἠὲ καὶ ἔργῳ is used to complete the hexameter, and often only one of the two elements 'word' and 'deed' is required by the context—usually the latter. In Heraclitus the formula is only slightly changed, and here too it is not to be taken too literally: the words are the means of explanation, the deeds or events are the things which are explained.[1] After διηγεῦμαι comes an interesting clause which further defines Heraclitus' method of explanation. διαιρέων means something more than merely 'judging', and implies a process of analysis leading up to a judgement, as in the literal sense 'divide up'. Diels, then, was right to translate 'zerlegend'. In Herodotus διαιρέω is used twelve times in its literal sense (e.g. I, 119, 3 κατὰ μέλεα δ.); four times meaning 'distribute'; and six times (twice in the middle voice) meaning 'judge'; so Powell *Lexicon to Herodotus* s.v. The full force of the literal meaning

[1] The expression can be treated as polar; see Heinimann *Nomos u. Physis* 43. I agree with Gigon 7f. *contra* Leisegang, *Denkformen* 74, and Hoffmann, *Sprache u. arch. Logik* 1 f., that no significant distinction such as that between single words and sentences is to be drawn between ἔπος and λόγος. In this fragment Heraclitus obviously used ἐπέων and not λόγων because the latter had already occurred in a different and specialized sense; in addition, ἔπος belongs to the formula he had in mind. Heinimann's attempt (p. 93) to restrict κατὰ φύσιν διαιρέων ἕκαστον to ἔργα is not convincing.

remains apparent in the last sense: so at IV, 23, 5 οἱ τὰς διαφορὰς διαιρέοντες, where the idea is that of 'picking the evidence to pieces' before arriving at a judgement; also at VII, 50, 1 (middle voice) εἰκότως μὲν σύ γε τούτων ἕκαστα διαιρέαι, where ἕκαστα emphasizes the idea of separate treatment of each point in a description of a situation. It is notable that four out of the six instances in Herodotus of διαιρεῖν meaning 'judge', or rather 'analyse', occur in the seventh book in conversations between Xerxes and an interlocutor, usually Artabanos. This book contains a great number of descriptions, for the benefit of foreigners, of various customs and institutions: it is natural that these descriptions should involve analysis, since the things being described were complex ones; hence the relevance of διαιρεῖν. In the fragment of Heraclitus the analysis is applied to 'each thing' separately, and the analysis is κατὰ φύσιν. The meaning of φύσις in early philosophical contexts is discussed more fully on pp. 228ff. Burnet's view that the word means 'material substance' is an extreme one, and the sense has to be much wider to fit all the early contexts. Heidel, after Aristotle *Met.* Δ 4, 1014b16, derived from root φυ- meaning 'grow', but this again is not borne out by the bulk of the early evidence. In fact the distinction between 'growth' and 'essential nature' is not so great as at first appears: the latter is the result of the former. Nevertheless, the idea of growth is probably absent from nearly all early uses of φύσις, and certainly from those in Heraclitus. Gigon 10 (followed by Heinimann 92f.) chose to regard διαιρέων κατὰ φύσιν and φράζων ὅκως ἔχει as quite distinct processes, 'determining things according to their origin and describing their present state'; his bald announcement that κατὰ φύσιν is equivalent to ὅπως πέφυκε does not really settle the issue. If we translate φύσις as 'real constitution', whether of individual things as here or of all such things as in fr. 123, we shall find this to be a sense which fits the context wherever it occurs in Heraclitus (and indeed in nearly all other early contexts). In the word 'constitution' is implicit the idea of arrangement or organization of parts, and arising out of this the idea of function or behaviour. To 'distinguish each thing according to its real constitution' involves an analysis of a complex object (in this case of 'all things', the whole sum of one's experience) which is carried out by means of the separation and classification of its component parts. φράζων ὅκως ἔχει does not describe a separate stage in the process, unless φράζων

is considered to be consequent upon διαιρέων: but both are grammatically included in διηγεῦμαι. As Verdenius 273 observed, ὅκως ἔχει is merely a further description of κατὰ φύσιν, and substantiates the interpretation of φύσις here as 'constitution'—an interpretation which does not run counter, on this occasion, to the interesting but erratic analysis of R. G. Collingwood, *The Idea of Nature* 43f. He stated that '"Nature", for them [sc. the Ionian philosophers], never meant the world or the things which go to make up the world, but something inhering in these things which made them behave as they did'. To this I would add that for Heraclitus, at least, the thing which made things behave as they did was some kind of κόσμος or order, an aspect of the Logos or formula which underlay the working of the sum of things; as will be seen later, an important part of this formula is the fact that things undergo change into each other according to measure. Yet it was not, one may suppose, from the examination of the constitution of individual things that Heraclitus arrived at the idea of a common formula of behaviour: rather an *a priori* demand for an underlying unity in the world, together with a consideration of the regularity of large-scale natural changes, led him to 'distinguish each thing according to its constitution', and to find the universal formula operating in the behaviour of even the smallest objects. The explanation of all things (ἐπέων καὶ ἔργων... διηγεῦμαι) involves the consideration and definition of separate instances (διαιρέων ἕκαστον), and this suggests that the φύσις of a thing, that which governs its behaviour, will testify to the universal application of the Logos; but by the time the examination of individual structure takes place the intuition of the Logos has already occurred.[1]

The last words of the fragment, τοὺς δὲ ἄλλους ἀνθρώπους κτλ., should be separated from what goes before only by a colon, since τοὺς δέ is strongly contrasted with ἐγώ in ὁκοίων ἐγὼ διηγεῦμαι. Heraclitus himself understands the Logos perceptible in things, but

[1] The phrase κατὰ φύσιν recurs in fr. 112 D, where I agree with Reinhardt, *Parmenides* 223 n. 1, against Heinimann 93 that κατὰ φύσιν ἐπαΐοντας belongs together: but see p. 390. Nestle, *Hermes* 73 (1938) 10 f., mentions the frequent occurrence of κατὰ φύσιν in Hippocratic writings; but there the idea of normality, which is quite foreign to the Heraclitean usage, is usually implied. In Plato *Laws* 720D the meaning is similar to that of Heraclitus: ταῦτα ἐξετάζων ἀπ' ἀρχῆς καὶ κατὰ φύσιν.

other men fail to perceive it. ποιοῦσιν should not be interpreted too literally: the Logos is perceptible in what they do in so far as what they do is part of the sum of events in general; there is no event in which the formula is not at work in some way, but it is presumably mainly by the objective consideration of events in general, rather than by a particular examination of their own behaviour, that men are liable to apprehend it. The blindness of the majority of men is compared with their forgetfulness of what goes on in sleep; the choice of words in the Greek here does not fully bring out the parallelism of the analogy, for men while awake fail to recognize an ever-present truth, yet they are said to *forget* (on waking, presumably) what they did in sleep—that is, their dreams, which Heraclitus considered to be a real if diminished form of activity: cf. frr. 21, 26, 75. The latter fault is that of forgetfulness rather than of impercipience. Gigon 6 saw the difficulty, and explained that ἐπιλανθάνονται must here mean simply 'do not know'. There is no clear parallel for this sense in extant classical literature (Cebes, first century A.D., used the sense 'disregard'), where the meaning is always 'to let something which one previously knew escape one's notice'. However, it is true that men do not understand the nature of their activity in sleep, while, on the other hand, they do sometimes remember their dreams on waking; possibly the former meaning is intended, yet this would be very involved. Slight inconsistencies in complex images are not uncommon in the archaic style; the general point of comparison here is the lack of knowledge resulting in each case. At any rate the image seems to have been clear enough and unusual enough to have provoked a paraphrase by the Stoic emperor Marcus Aurelius, which has been generally accepted as an original fragment, fr. 73D (94B): Marcus Aur. IV, 46 'Ἀεὶ τοῦ Ἡρακλειτείου μεμνῆσθαι...[fr. 76[c]], μεμνῆσθαι δὲ καὶ ...[fr. 71], καὶ ὅτι ...[fr. 72], καὶ ὅτι οὐ δεῖ ὥσπερ καθεύδοντας ποιεῖν καὶ λέγειν, καὶ γὰρ καὶ τότε δοκοῦμεν ποιεῖν καὶ λέγειν· καὶ ὅτι...[fr. 74]. Marcus is well known for his freedom in quotation from earlier authors, and the string of quotations attributed to Heraclitus is no exception. The first and second (frr. 76[c]D, 71D) are obvious and rather misleading paraphrases; the third and fifth (frr. 72, 74) contain genuine quotations interlarded with Marcus' own comments. It is not surprising then if the fourth, with which we are concerned here, is found on consideration not to be a verbatim report of

Heraclitus. οὐ δεῖ is probably Marcus' and not Heraclitus' way of introducing a moral prohibition, as in fr. 74; ποιεῖν καὶ λέγειν occurs in fr. 112D but may well be a reminiscence of ἐπέων καὶ ἔργων in fr. 1 (p. 41 above)—though this phrase was not uncommon, cf. for example λόγων ἔργων τε πάντων at Sophocles *O.T.* 864f. The sentence as a whole lacks the pungency and forcefulness of a Heraclitean utterance. The presumed fragment simply repeats in a prohibitive form the criticism of the majority of men in the last sentence of fr. 1, and in view of Marcus' methods is best taken as a rough paraphrase of that criticism; the possibility that this is the case is admitted also by Gigon 10. Another paraphrase of the same words may be implicit in fr. 89D, in Plutarch, discussed under fr. 2.

It will not have escaped the reader's notice that fr. 1 shows a careful balance and subordination of clauses. It is the longest continuous piece of Heraclitus' prose that we possess, and Gigon 8 may be justified in claiming that 'Fr. 1 ist ja das Proömium eines redigierten Buches', against the opinion of Diels (*Herakleitos*[2] XIII) and others that the 'book' was simply a collection of γνῶμαι or aphorisms. Nevertheless, Diels' view is possible: even a verbal exposition may naturally begin with an exceptionally complex pronouncement, or such a pronouncement may later be used as introduction to a collection of sayings. That the fragment was carefully worked out is shown by an analysis of the thought-content in relation to the clauses. Gigon 8ff. made an elaborate attempt at such an analysis, though he seems to have missed the main point; Snell's simpler effort (*Hermes* 61 (1926) 366 n. 1) is more instructive. There is nothing very obscure: in both the first and second sentence (down to διηγεῦμαι) Heraclitus attacks his fellow-men on two separate but related counts: (1) that the Logos exists, and has the properties he attributes to it (it is 'common', cf. fr. 2), and is that by which all things come-to-be—but in spite of this men do not recognize it in things, though it is there to be recognized by all; (2) that he, Heraclitus, actually describes the Logos in words and shows how it operates in all things, yet men still fail to recognize it. There then follows a short elaboration of the method by which Heraclitus explains the Logos and its manifestations. Finally, he reverts to other men, and by means of a simile reasserts attack no. (1), that men fail to see the meaning or structure of their own experience

of the outside world. In tabular form this argument may be expressed as follows:

Criticism (1)	Actual reproach	Criticism (2)
τοῦ δὲ λόγου τοῦδ' ἐόντος	ἀεὶ ἀξύνετοι γίνονται ἄνθρωποι	καὶ πρόσθεν ἢ ἀκοῦσαι καὶ ἀκούσαντες τὸ πρῶτον.
γινομένων γὰρ πάντων κατὰ τὸν λόγον τόνδε	ἀπείροισιν ἐοίκασι	πειρώμενοι καὶ ἐπέων καὶ ἔργων ὁκοίων
	τοὺς δὲ ἄλλους ἀνθρώπους λανθάνει	ἐγὼ διηγεῦμαι,
ὁκόσα ἐγερθέντες ποιοῦσιν (ὅκωσπερ ὁκόσα εὕδοντες ἐπιλανθάνονται.)		διαιρέων ... φράζων ...

These criticisms of the generality of men occur again and again in the extant fragments; many of those fragments which exemplify them are not treated in detail in the present work, since they add little to our knowledge of the Logos and the outside world and are primarily of interest for Heraclitus' ethics and his attitude toward his contemporaries. But the pattern of all these attacks upon men is remarkably consistent, and it is to stress this consistency that the most relevant fragments (in whole or part) are set out in parallel opposite. Fragments not otherwise fully discussed in this book are marked*.

Fr. 1	Fr. 2	Fr. 17*	Fr. 72*	Fr. 34*	Fr. 19*	Fr. 56*	Fr. 28*
...ἀξύνετοι γίνονται ἄνθρωποι		οὐ γὰρ φρονέουσι τοιαῦτα†		ἀξύνετοι			
καὶ πρόσθεν ἢ ἀκοῦσαι καὶ ἀκούσαντες τὸ πρῶτον.		οὐδὲ μαθόντες		ἀκούσαντες	ἀκοῦσαι οὐκ ἐπιστάμενοι		
γινομένων γὰρ πάντων κατὰ τὸν λόγον τόνδε	τοῦ λόγου δὲ ἐόντος ξυνοῦ		ᾧ μάλιστα διηνεκῶς ὁμιλοῦσι				
ἀπείροισιν ἐοίκασι...		γιγνώσκουσιν,	τούτῳ διαφέρονται,	κωφοῖσιν ἐοίκασι		ἐξηπάτηνται οἱ ἄνθρωποι	
...τοὺς δὲ ἄλλους ἀνθρώπους λανθάνει ὁκόσα ἐγερθέντες ποιοῦσιν, ὅκωσπερ ὁκόσα εὕδοντες ἐπιλανθάνονται. [Cf. fr. 73 D.]	ζώουσιν οἱ πολλοὶ ὡς ἰδίαν ἔχοντες φρόνησιν. [Cf. fr. 89 D.]	†(ὁκόσοις ἐγκυρεῦσιν) ἑωυτοῖσι δὲ δοκέουσι.	καὶ οἷς καθ' ἡμέραν ἐγκυροῦσι, ταῦτα αὐτοῖς ξένα φαίνεται. [καί—φαίνεται possibly a paraphrase of fr. 17.]	...παρεόντας ἀπεῖναι.	οὐδ' εἰπεῖν.	πρὸς τὴν γνῶσιν τῶν φανερῶν	δοκέοντα ὁ δοκιμώτατος γινώσκει φυλάσσει·

114

(91 b B)

Stobaeus *Florilegium* 1, 179 (III, 129, 15 Hense) Ἡρακλείτου ... **ξὺν νόῳ[1] λέγοντας ἰσχυρίζεσθαι χρὴ τῷ ξυνῷ πάντων, ὅκωσπερ νόμῳ πόλις καὶ πολὺ[2] ἰσχυροτέρως· τρέφονται γὰρ πάντες οἱ ἀνθρώπειοι[3] νόμοι ὑπὸ ἑνὸς τοῦ θείου· κρατεῖ γὰρ τοσοῦτον ὁκόσον ἐθέλει καὶ ἐξαρκεῖ πᾶσι καὶ περιγίνεται.[4]**

1 νόῳ codd., νῷ coni. Wackernagel, *Sprachl. Unters. z. Hom.* 38 n. 4. 2 πόλις codd., corr. Schleiermacher. 3 ἀνθρώποι Tr.; ἀνθρώπειοι cod. Paris. 1985; ἀνθρώπινοι Gesner. 4 ⟨πάντων⟩ Diels, cf. Plut. *de Isid.* 369 A.

By Heraclitus: ... [*frr.* 108–13]...Those who speak with sense must rely on what is common to all, as a city must rely on its law, and with much greater reliance: for all the laws of men are nourished by one law, the divine law; for it has as much power as it wishes and is sufficient for all and is still left over.

After quoting fr. 1 Sextus (*adv. math.* VII, 132f.) went on to quote fr. 2, and implied that these were not quite continuous in the work of Heraclitus: for he says ὀλίγα προδιελθὼν ἐπιφέρει. Some modern scholars have tried to distinguish an extant fragment, or fragments, which came in this gap. Such an effort is obviously a vain one: a considerable part of Heraclitus' sayings has not survived, and it is more than possible that the transitional matter mentioned by Sextus is among this lost material. However, the object of the present arrangement of the extant fragments is not to attempt to reproduce the actual order of any ancient book or collection of sayings, but to group by subject fragments of the same sort and to arrange these groups in a manner which will best emphasize the structure of Heraclitus' thought, so far as we can determine it: it is therefore permissible to set between frr. 1 and 2 a fragment which will adequately bridge the gap in sense. This involves looking ahead a little, to the opening words of fr. 2, διὸ δεῖ ἕπεσθαι τῷ ξυνῷ. In view of διό it would seem that some mention of τὸ ξυνόν must have preceded fr. 2; for this reason Bywater in his edition, H. Gomperz, *Wiener St.* 43 (1922–3) 128ff., and others proposed that the gap was

partly filled by fr. 114. This view was supported by Gigon 11ff., who added that the gap presumably contained no reference to λόγος; such a reference would not have been omitted by Sextus, who was particularly interested in the nature of Logos (which, however, he completely misinterpreted). This requirement is filled by the present fragment, which does indeed appear, in spite of its digression on the nature of Law, to make an adequate transition between frr. 1 and 2; the fact that it contains two examples of word-play, however, does not necessarily connect it with fr. 1, where there is one such example, for this was a favourite device of Heraclitus; similarly, the discursive nature of the fragment does not necessarily assign it to the prooemium, for fr. 121, for example, clearly from a different context, is equally discursive. Also, the argument from the occurrence of διό at the start of fr. 2 is not absolutely binding: for the last sentence of fr. 1 might have led on to an announcement of the fallacy of purely private information (as in sleep), and this might lead to the conclusion (διὸ δεῖ) that one should follow τὸ ξυνόν—which, if its opposite had already been to some extent defined, would not require further explanation. However, it remains possible, though no more, that fr. 114 did fill, or partially fill, the gap; for, apart from the connexion with fr. 2 through the mention of τὸ ξυνόν, its beginning contrasts well enough with the attack on the impercipient majority at the end of fr. 1—referring back, it could be maintained, to the enlightened attitude of Heraclitus himself implied in ὁκοίων ἐγὼ διηγεῦμαι.

That this fragment was known to the Stoics, with their interest in θεῖος νόμος, is indicated by an indubitable reminiscence in Cleanthes' *Hymn to Zeus*, 20f.:

> οὔτ' ἐσορῶσι θεοῦ κοινὸν νόμον, οὔτε κλύουσιν,
> ᾧ κεν πειθόμενοι σὺν νῷ βίον ἐσθλὸν ἔχοιεν.

Neustadt, *Hermes* 66 (1931) 397, pointed out that σὺν νῷ in the second of these lines is unnecessary to the sense and therefore points back directly to Heraclitus: Cleanthes retained it even though the Heraclitean word-play with ξυνῷ had been destroyed by the later form κοινόν. That the fragment was well known in Stoic circles is also suggested by Plutarch, who attributed a paraphrase of the final words to the Stoics: *de Isid.* 45, 369 A οὔτ' ἄποιου δημιουργὸν ὕλης ἕνα λόγον καὶ μίαν πρόνοιαν [sc. θετέον], ὡς οἱ Στωικοί,

περιγινομένην ἁπάντων καὶ κρατοῦσαν. On the strength of this paraphrase Diels considered that πάντων should be supplied as object of περιγίνεται: this would alter the sense of the Heraclitean sentence to '...and suffices for all and overcomes all'. This, apart from merely repeating the idea of κρατεῖ γὰρ τοσοῦτον ὁκόσον ἐθέλει, makes ἐξαρκεῖ πᾶσιν intolerably weak and in fact almost robs it of meaning: for how would a thing that 'overcomes all' also 'suffice' for the same things, except in a very strained sense? On the other hand, it is easy to see how Plutarch or his Stoic source was able to misunderstand περιγίνεται: once ἐξαρκεῖ πᾶσιν is omitted, as it is in his version, περιγίνεται naturally seems to expect an object, just as κρατεῖ has an implied object; for to have power is to have power over something. If περιγίνεται is absolute, however, a perfectly good sense is given: the divine law suffices to 'nourish' all the particular human laws that exist, and yet is not exhausted by providing this nourishment—on the contrary, it remains unaffected; otherwise, obviously, it could not be described as 'divine' (and therefore immortal, imperishable). Burnet's 'suffices for all things with something to spare' requires that the subject of the verb is strictly not the whole of the divine law but only a part of it; for περιγίνεσθαι should only mean 'remain over, survive', referring to the whole of the grammatical subject. Burnet's translation would, I take it, imply a situation in which capacity rather than quantitative expenditure is emphasized, as in the case of a strong fighter who can take on three other men and still have something to spare; but apart from the grammatical difficulty involved such an interpretation fails to take account of the presumably quantitative metaphor of τρέφονται. One other linguistic point remains for discussion, namely, Wackernagel's suggestion of νῷ for the uncontracted νόῳ of the mss. The latter makes the pun with ξυνῷ slightly less exact (a pun which cannot be reproduced in the English translation, though I have tried to retain the force of the more obvious ἰσχυρίζεσθαι–ἰσχυροτέρως), and the contracted form may be right; though it occurs only once each in the texts of Homer and Hesiod, and never in Herodotus (but this may be due to archaization in the mss.; cf., for example, Meillet *Aperçu*[3] 222).

Reinhardt, *Parmenides* 215 f., tried to maintain that οἱ ἀνθρώπειοι νόμοι does not refer to the νόμοι of the city, but to the precepts or habits of mankind in general; thus the sense of νόμος is changed

within the limits of the fragment: there is an opposition like the sophistic νόμος–φύσις, with ἀνθρώπειοι νόμοι representing νόμος and the εἷς θεῖος νόμος representing φύσις. Gigon 14 agreed that 'laws of men' are different from the law on which a city-state relies, but maintained that they stand here as a plural form of τὸ ξυνόν and represent 'the whole genus of common truths and realities'. I agree with Heinimann, *Nomos u. Physis* 66, that this kind of interpretation is unnecessary and misleading: the 'laws of men' are not different from the 'laws of the city', nor are both of these radically opposed to the 'one divine law', though they are greatly inferior to it. The sense of the fragment is quite coherent as it stands, and there is no need to strain the Greek by taking νόμος in different senses. The formal subject of discussion does change after the first sentence; Law is introduced as a simile and remains the main subject in what follows, which is strictly an elaboration or explanation of the simile; but since Law is analogous to τὸ ξυνόν the coherence of the sentence as a whole is maintained. The fragment might be paraphrased thus: 'Men who want to behave intelligently must base their behaviour on the formula or rule which operates in (and can be detected in) all things. So, in the narrower social sphere, citizens base their behaviour on that which is accepted to be of universal application in all local matters, namely the law of their city. But the reason for following the rule underlying all things is even stronger than for obeying city laws: city laws are not shared in common by and applicable to all men absolutely, but only to the citizens of a particular city-state, while "what is common to all" (that is, the Logos of fr. 1) has no such restrictions, but is analogous to the single divine law of which particular codes of law are merely offshoots. Being such, it is even more to be relied on in determining behaviour in its sphere than are city laws in their sphere.'

The last sentence of the fragment is an amplification in very vague metaphorical terms of the precise metaphor of τρέφονται: the particle γάρ refers back to the immediately preceding clause, τρέφονται–θείου; here its causal quality is not to be too strongly stressed, although the fact that the divine law 'nourishes' the laws of men is to some extent explained by the omnipotence and all-sufficiency of the former; see Denniston's general discussion of γάρ, commonly held to be a fusion of γε ἄρα, in *Greek Particles* 56ff. In the first sentence λέγοντας is paraphrased above as 'those who

behave...', for it is obviously action as well as speech that is governed by reliance on τὸ ξυνόν; in Greek there is no sharp distinction between the two, at any rate until the development by the Sophists and rhetoricians of the λόγος–ἔργον contrast and the eristic proofs of the impossibility of false utterance. Speech and action are the outcome of the same state of mind. Often, as was seen on fr. 1, this simple identification led to polar expressions like ἔπη καὶ ἔργα or λέγειν καὶ ποιεῖν, where in fact *only* action *or* speech may be in question; though sometimes this type of expression is intended to cover all forms of behaviour. Conversely then one term can occasionally be used for both, since there is no rigid differentiation of their application: thus there is no need to assume as Diels did that ⟨καὶ ποιοῦντας⟩ is to be supplied.

Heraclitus' assertion that particular laws are 'nourished' by a single divine law is of the greatest interest. Gigon 12f. is clearly right in suggesting that such a view must have been prompted by the recent growth of interest in two separate fields, those of ethnography and law-making. Herodotus is our best example for the confusion caused to his contemporaries and predecessors by the discovery, promulgated by curious travellers like Solon, Hecataeus, or Herodotus himself, that human law and custom is not stable or universal but alters radically from community to community. It was the resultant scepticism which gave νόμος its typical content in the φύσις–νόμος opposition so common after the middle of the fifth century. A similar result came about through the codification of laws which took place in most city-states from the seventh century onwards: the more detailed the law became, the more it had to depend on human and fallible interpretations of precedent, and the less could it be determined by reference simply to clear-cut (and perhaps absolute) rules of equity. Yet at the same time as these tendencies were destroying faith in the adequacy or universality of the νόμοι of men, the old belief in Νόμος as an unquestioned guide to behaviour continued. Thus Pindar, though attributing to it arbitrary powers, describes Law as 'king of mortals and immortals', fr. 169 Schröder Νόμος ὁ πάντων βασιλεὺς θνατῶν τε καὶ ἀθανάτων ἄγει δικαιῶν τὸ βιαιότατον ὑπερτάτᾳ χειρί. It was the basis of society, and Heraclitus himself said (fr. 44) that 'the people must fight for the law as they do for the city wall'. Thus the idea of a κοινὸς νόμος, which can also be described as θεῖος, retains its

meaning, as can be seen from the following two passages written when the validity of particular (ἴδιοι) νόμοι was commonly attacked: Gorgias *Epitaphios* (DK 82B 6)...πολλὰ δὲ νόμου ἀκριβείας λόγων ὀρθότητα [sc. προκρίνοντες], τοῦτον νομίζοντες θειότατον καὶ κοινότατον νόμον, τὸ δέον ἐν τῷ δέοντι καὶ λέγειν καὶ σιγᾶν καὶ ποιεῖν...; Thucydides III, 82, 6 (of the effects of *stasis*) καὶ τὰς ἐς σφᾶς αὐτοὺς πίστεις οὐ τῷ θείῳ νόμῳ μᾶλλον ἐκρατύνοντο ἢ τῷ κοινῇ τι παρανομῆσαι (cf. also Plato *Laws* 716A, with which fr. 94 should be compared). In both these passages the divine law is universal, and there is no doubt that this is the sense of the fragment of Heraclitus: it is for this reason that it is described as 'divine', though this is not to say that 'divine' cannot be predicated of other subjects too.[1]

The relationship between the one, universal, divine Law and the many, particular laws of men is expressed—or rather disguised—by the verb τρέφονται. I have translated it as 'are nourished', which is as close as possible here to its basic sense 'thicken, clot'.[2] A weaker sense, 'are maintained', is also possible. In either case the word is a surprising one in the context: in other early philosophical writings it is applied solely to solid objects like living creatures, stars, rivers (nourished by Okeanos at *Il.* XXI, 195f.), or, in Empedocles fr. 30, to the Strife which is equal in bulk to earth, water, air and fire. The explanation of Heraclitus' usage is, in part, that he would have been unable to define any other type of 'being' than corporeal being, and so laws, which undoubtedly exist, might be thought of as corporeal and so maintainable by corporeal processes. On the other hand,

[1] On the development of the content of νόμος, cf. Heinimann 59–89. His treatment of this fragment on pp. 65 ff. is sound until it deals with 'Orphic' parallels. Gigon compared the θεῖος νόμος of the fragment with the ἄγραφοι νόμοι first defined by Thucydides II, 37, 3...καὶ ὅσοι [sc. νόμοι] ἄγραφοι ὄντες αἰσχύνην ὁμολογουμένην φέρουσιν. A distinction of this kind was common in the fourth century; Aristotle makes it very clearly, and it can be seen from the following passage that the basis of the distinction was the old contrast between ἴδιος and κοινός: *Rhet.* A 10, 1368 b 7 νόμος δ' ἐστὶν ὁ μὲν ἴδιος ὁ δὲ κοινός· λέγω δὲ ἴδιον μὲν καθ' ὃν γεγραμμένον πολιτεύονται, κοινὸν δὲ ὅσα ἄγραφα παρὰ πᾶσιν ὁμολογεῖσθαι δοκεῖ. Doubtless the distinction between a κοινὸς νόμος and ἴδιοι νόμοι (rather than between unwritten and written laws) was recognized by Heraclitus and his contemporaries: if this is so, the continuity and coherence of fr. 114 become quite clear.

[2] Cf. Boisacq, *Dictionnaire Étymologique de la Langue grecque*, s.v. The root is the same as that of θρόμβος; cf. γάλα θρέψαι at *Od.* IX, 246.

I think that he would also have been aware that τρέφονται was in some degree a metaphor. However we look at it, the usage is a very unusual and striking one; taken with the imaginative imagery of the last sentence it provides a convincing instance of the powerful character of Heraclitus' prose style, and suggests that he was spurred to an unusual intensity of description by the contemplation of the ξυνόν, the θεῖος νόμος, just as Aeschylus or Pindar rose to special heights when dealing with the more venerable aspects of the Olympian Zeus. By this equation of θεῖος νόμος with τὸ ξυνόν it is not suggested that for Heraclitus θεῖος meant nothing more than 'permanent' or 'universal'; the use of θεός in frr. 82–3, 78, 79, 102, 67 shows that he did not entirely dissociate the word from the emotional colouring provided by traditional religion—a fact which is openly recognized in fr. 32, 'One thing, the only truly wise thing, is both unwilling and willing to be called by the name of Zeus'. Just as the author of *Metaphysics* Λ was also the composer of a hymn to Virtue which included a serious reference to Zeus Xenios, so Heraclitus did not reject outright the loftier concepts of Olympianism. In fr. 102 a contrast analogous to that of this fr. 114, between the variability of human decisions and the stability of the universal rule, employs the term ὁ θεός quite unequivocally: 'To god all things are fair and good and just, but men have supposed some things to be unjust and others just.' At the same time it can be maintained that by θεός he meant more or less the same as is meant by the Logos of fr. 1, the ξυνόν or θεῖος νόμος of this fragment. The relationship between the 'one law, the divine law' and the 'laws of men' is somewhat different from that between the ξυνὸς λόγος of fr. 2 (identifying the Logos of fr. 1 with the 'that which is common to all' of the first part of this fr. 114) and the ἰδία φρόνησις of the same fragment or the sleep-like impercipience described in fr. 1: for the 'laws of men' are not entirely cut off from their source. The 'divine law' is perceptible in things, and human laws are effective in so far as they coincide with the one law or formula which controls not merely a particular society of men but the whole complex of existing things, animate and inanimate. Yet the relationship was not simply one of imitation on the part of human laws: divine law played its part in a concrete manner, as is implied by the term τρέφονται. To revert entirely to later, Platonic, concepts: for Heraclitus the relationship between particular men or things and the one universal

formula or law was *both* μίμησις *and* μέθεξις; for the naïve corporealist there is no illogicality in this. But here the discussion goes beyond Heraclitus.

The relationship implied by τρέφονται is further elucidated by the last sentence, where the attributes of the one divine law are complete power, complete sufficiency for others, and complete self-sufficiency. These attributes are exactly those of ὁ θεός: κρατεῖ and ἐξαρκεῖ express the absolute power, περιγίνεται the immortality, which are the two chief marks of the divine from Homer onwards. The sentient imagery of ὁκόσον ἐθέλει is made possible by the previous use of θείου, whether one thinks of an anthropomorphic god or of Xenophanes' non-anthropomorphic deity, which however οὖλος ὁρᾷ, οὖλος δὲ νοεῖ, οὖλος δέ τ' ἀκούει (fr. 24). The whole sentence is poetical in character and should not be subjected to too literal an analysis.

Immediately before fr. 114 in the collection of Stobaeus comes another saying attributed to Heraclitus, accepted by Diels as fr. 113: *Florilegium* I, 179 ξυνόν ἐστι πᾶσι τὸ φρονεῖν. Bywater, deceived no doubt by the omission in most mss. of the lemmata for this group of excerpts from Heraclitus, took it as the original prelude to fr. 114; this is most improbable, for it spoils by anticipation the pun between ξὺν νόῳ and ξυνῷ; the alteration from φρονεῖν to λέγοντας is pointless and confusing; and ξυνός is used in different senses in each case, which, although a device employed by Heraclitus to emphasize a contrast, would here merely obscure the point. Also, πᾶσι must mean 'to all men', while πάντων in fr. 114 must, from the context and the analogy with law, mean 'all things' (including no doubt all men as well as inanimate objects). In fact, the so-called fragment is suspect whether or not it is connected with fr. 114. Gigon 16f., however (followed by Walzer, *Eraclito* ad fr.), was suspicious only of πᾶσι; but Reinhardt, *Parmenides* 214, had pointed out that the assertion that sense is within the reach of all does not mean that every imbecile can become a sage: it means that the recognition of the Logos, a recognition which leads to a sensible outlook, is available to all in that the Logos is present, though not obviously so, in all things. 'Common' as applied to the Logos means, primarily, 'operative in all things', just as in fr. 80 war is said to be 'common' in the sense of universal. By inference, since men have the faculties

to perceive all things, the Logos is 'common' to them in the subsidiary sense that it is possible for them all to apprehend it; though but few of them do apprehend it. This is the implication of frr. 1, 114, 2: yet one may well doubt whether Heraclitus would have explicitly used ξυνός in this subsidiary sense where some other expression would have done equally well; for him it was almost a technical term, and to have used the subsidiary sense except by implication (as in ἰδίαν φρόνησιν in fr. 2 below) would have diminished the force of the technical sense. Stobaeus collected other weak paraphrases, e.g. frr. 109, 112D, 116D; the probability is that this statement is merely a short version of the general sense of fr. 2 in particular. A succinct saying of this sort might well have become a popular one, whether original or not, comparable with those in the collection of apophthegms attributed by Demetrius of Phaleron to the Seven Sages and transmitted by Stobaeus. This would account for its repetition by Plotinus, *Enn.* VI, 5, 10 καὶ γὰρ καὶ τὸ φρονεῖν πᾶσιν ὅλον· διὸ καὶ ξυνὸν τὸ φρονεῖν, οὐ τὸ μὲν ὧδε, τὸ δὲ ὡδὶ ὄν. In this version ξυνόν has a different sense from any which is likely to have been used by Heraclitus: intelligence is said to be invariable for all, that is, wisdom is not relative. On fr. 113D see also p. 63.

2

(92B)

Sextus Empiricus *adv. math.* VII, 133 (post fr. 1) ...ὀλίγα προδιελθὼν[1] ἐπιφέρει· **διὸ δεῖ ἕπεσθαι τῷ ⟨ξυνῷ, τουτέστι τῷ⟩[2] κοινῷ· ξυνὸς γὰρ ὁ κοινός· τοῦ λόγου δ' ἐόντος ξυνοῦ ζώουσιν οἱ πολλοὶ ὡς ἰδίαν ἔχοντες φρόνησιν.** ἡ δ' ἐστὶν οὐκ ἄλλο τι ἀλλ' ἐξήγησις τοῦ τρόπου τοῦ τῆς τοῦ παντὸς διοικήσεως. διὸ καθ' ὅτι ἂν αὐτοῦ τῆς μνήμης κοινωνήσωμεν, ἀληθεύομεν, ἃ δὲ ἂν ἰδιάσωμεν, ψευδόμεθα.

1 προσδιελθὼν coni. Bekker. 2 ⟨ ⟩ Bekker; ξυνῷ pro κοινῷ scripsit Schleiermacher.

(*After fr.* 1)...*A little further on he adds:* Therefore it is necessary to follow the common (*that is, the universal: for 'common' means 'universal'*): but although the Logos is common the many live as though they had a private understanding.—*This is nothing other than an explanation of the way in which the universe is ruled. Therefore in so far as we share in awareness of this, we speak the truth, but in so far as we remain independent of it, we lie.*

ξυνὸς γὰρ ὁ κοινός is obviously a gloss by Sextus or his source: κοινός is the later form of ξυνός,[1] and one which (though found in Herodotus) Heraclitus would hardly have used; he uses the epic and Ionic form ξυνός, as we may judge from frr. 80, 103, 114, as well as the later occurrence in this fragment. Nor is this Ionic form in these fragments due to a later process of re-Ionicization, for Sextus' gloss shows that it was not too well known in his time at any rate. The re-establishment of what were considered to be appropriate dialectal forms did not come into vogue much earlier than a century and a half before. It goes without saying that if Sextus or his source *had* had κοινῷ in front of them, then there would have been no need for a gloss at this point. We must either suppose as Schleiermacher did that ξυνῷ is to be read for κοινῷ, or, with Bekker followed by almost all later scholars, that the original ξυνῷ together with an

[1] I have translated by '*universal*' and 'common' above, not because there is any distinction of meaning in the Greek, but in the absence of an archaic English form of 'common'.

explanatory phrase connecting it with κοινῷ has been lost from our text of Sextus. In this case the gloss would have been a repetitive one; if any words were to be dropped as redundant they should have been either the words equating ξυνῷ with κοινῷ (something like Bekker's conjecture τουτέστι τῷ κοινῷ), or the phrase ξυνὸς γὰρ ὁ κοινός. As it is, the original word, the one that required explanation, is missing from the text, which makes nonsense of the gloss which follows; it is easy to understand, however, how in an effort to simplify the repetitive gloss the wrong word should have been retained. Against the much simpler explanation of Schleiermacher, that an original ξυνῷ has merely been corrupted into the present κοινῷ from the gloss which follows, is the γὰρ of ξυνὸς γὰρ ὁ κοινός. This explanatory particle would have been quite unnecessary for a simple equation between the earlier and later form; it implies a definition or restriction that has already been given, and in this case lost.

That Heraclitus' words were those printed in heavy type above is accepted by most modern commentators, e.g. by Diels, Reinhardt, Kranz, Gigon, Walzer. Bywater, however, rejected the whole of the first clause as an earlier gloss misunderstood by Sextus; while Burnet at one stage accepted nothing but ζώουσιν–φρόνησιν, and later went to the opposite extreme and attributed to Heraclitus the whole quotation as it stands in Sextus (*EGP*[4] 139 n. 2).

The fragment draws a conclusion pertaining to human behaviour from some general assertion of the 'common' property of the Logos or formula of things; since there is one common rule or law which underlies the behaviour (γίνεσθαι) of all things, then men are subject to this law and, if they want to live effectively, must 'follow' it. Fr. 114, as has been seen, made a general assertion of this sort about τὸ ξυνόν, although there the only implied identification of it is as θεῖος νόμος and not as λόγος; as has been observed, the two ideas are complementary. In that fragment the generalization was itself the justification of a preceding assertion that men should rely on that which is common to all; this does not of itself rule out the possibility that fr. 2, as well, develops the implications of the generalization in fr. 114, for an a-b-a structure ('men must...because the Logos is common...therefore men must...') suits the naïve architectonic character of Heraclitus' expository method, so far as this can be judged from the few extant fragments composed of more

than a single sentence. Thus in fr. 1 there is an a-b-a-b arrangement: 'The Logos is this...but men are uncomprehending...all things happen according to the Logos...men are like people of no experience....' There is a close parallelism in structure between fr. 1 and fr. 2, as Reinhardt, *Parmenides* 61, and Gigon 3 have noted:

Fr. 1 τοῦ δὲ λόγου τοῦδ' ἐόντος	ἀεὶ ἀξύνετοι γίνονται ἄνθρωποι...
Fr. 2 τοῦ λόγου δ' ἐόντος ξυνοῦ	ζώουσιν οἱ πολλοὶ ὡς ἰδίαν...

It would be wrong to draw from this parallelism alone the conclusion that these two fragments necessarily came close together in Heraclitus' own arrangement of his sayings; but the similarity of subject-matter together with Sextus' information makes such a conjecture a probable one. Fr. 114 may have come between. Fr. 2 contains the only explicit affirmation in the extant fragments that the Logos is ξυνός, although this is plainly implied in the words γινομένων γὰρ πάντων κατὰ τὸν λόγον τόνδε in fr. 1 and the description of the θεῖος νόμος in fr. 114. The fact that τῷ ξυνῷ has just been mentioned makes it permissible to conclude that the phrase refers *primarily* to the Logos. Nevertheless, in fr. 114 and the first clause of this fr. 2 τὸ ξυνόν is not just used as a periphrasis for Logos: rather it is a separate term in an inferential argument which leads to the conclusion that men should 'follow' the Logos—an argument which may be recast into syllogistic form as follows: If there is anything which is 'common to' all things, then men should not try to escape it in their behaviour; the Logos is common to all things; therefore men should 'follow' the Logos. In this argument, which seems to underlie frr. 1, 114, 2, two separate assumptions are made: (1) the Logos is present in all things, or common to all things; (2) men should not contravene a rule which applies to all things. (1) is explicitly stated in the γινομένων...πάντων κατὰ τὸν λόγον τόνδε of fr. 1, and more plainly still in the τοῦ λόγου δ' ἐόντος ξυνοῦ of fr. 2; what the Logos is and how it works in a variety of different cases is explained in fr. 50 and the fragments of Groups 2–6. (2) is stated in the first clauses of frr. 114 and 2—but no clarification or explanation of this assumption remains. Perhaps the διό which introduces the statement in fr. 2 means that some explanation preceded this fragment, and is now lost; perhaps it merely referred back vaguely to the content of fr. 1; conceivably it referred to the statement in fr. 114, or a similar statement, that the 'divine Law' is

all-powerful and all-sufficient. However, the assumption may have been an axiom, requiring no justification or elaboration: if there is one law or formula visible at work in all parts of the changing outside world, and if it is held to apply to men as well as to everything else, then it is self-evident that to use one's strength and will to work against this formula is to court disaster. This axiom was later accepted in the Stoic ideal of ὁμολογουμένως ζῆν, an ideal which may have been derived from reflexion on Heraclitus' doctrine of the Logos. In itself this axiom does not reveal an attitude which differed much from the attitude of Heraclitus' contemporaries to the outside world and the forces which ruled it, though different terms are used. In the terms of traditional religion, all things are ruled by the gods, both men and 'nature'—winds, sea, sky, crops and so on. The same Zeus who punishes human wrongdoing such as the ill-treatment of a suppliant controls the wind and the rain and the heat of summer. To put to sea in midwinter involves ὕβρις just as high-handedness in personal relationships does. Heraclitus accepted this kind of view and applied it, perhaps more clearly than it had been applied before, to a new conception of natural order.

The use of ἕπεσθαι in the sense 'follow, obey' recalls the Delphic motto θεῷ ἕπου, which is adapted in the Pythagorean *Symbola* according to Iamblichus *Protrepticus* 21. Herodotus v, 18, 2 has ἕπεο νόμῳ (νόμος here = 'custom'); for similar uses cf. also LSJ s.v., I, 7. The word may be held to apply especially, at this period, to obedience of an unquestioned authority. To turn to the last clause of the fragment: οἱ πολλοί avoids the absolute condemnation of τοὺς δὲ ἄλλους ἀνθρώπους in fr. 1, and allows for the possibility that some men as well as Heraclitus have comprehended the truth that confronts them; so perhaps in fr. 17, also in association with the root φρον-. This root has different shades of meaning, from 'understand' to 'perceive' (see also E. Fraenkel *Aeschylus, Agamemnon* II, 105): Aristotle, *de an.* Γ 3, 427a21 ff., asserted that 'the old thinkers say that φρονεῖν and αἰσθάνεσθαι are the same' and quoted Empedocles fr. 108 to prove his point; cf. *idem* fr. 107 καὶ τούτοις φρονέουσι καὶ ἥδοντ' ἠδ' ἀνιῶνται. That Aristotle's generalization is misleading is shown by, for example, Parmenides fr. 16, where φρονέει is unmistakably associated in sense with νόος and νόημα. Another aspect of φρονεῖν, φρόνησις (developed in the compound σωφρονεῖν) is 'good sense': so, for example, in the injunction attributed to Pittacus,

θεράπευε φρόνησιν. This certainly cannot be the meaning either in fr. 2 or in fr. 17: in the latter the use of a verb originally implying physical contact—ἐγκυρεῖν—as a prelude to φρονεῖν or its negative suggests that a physical perception is involved; but probably the idea of *reflexion* on the data of sense-perception is present too, as it is in γινώσκειν, the negative of which in fr. 17 describes an extreme stage of men's obtuseness. In fr. 2 φρόνησις is also best interpreted as including both the idea of actual perception and that of drawing the right conclusion from this perception. The accurate perception of things and events is the necessary prelude to the discovery of the Logos or formula which underlies those things and events, as is suggested in the group of fragments (55, 107, 101a) which assess various forms of sense-perception. Nor is this the only practical content of φρόνησις: I agree with Jaeger, *Paideia* I (Eng. trans.[3], Oxford, 1946), p. 460 nn. 158 and 161, that 'φρόνησις is knowledge related to action', that 'knowledge for Heraclitus implies both "speech and action"'. The reference in this latter remark is to ἐπέων καὶ ἔργων in fr. 1 and λέγειν καὶ ποιεῖν in the dubious fr. 112: I would add ξὺν νόῳ λέγοντας in fr. 114, on which I have already commented that speech must conform with action, and that at this period the two things normally went together. In fr. 2 the inevitable practical results of φρόνησις, of whatever form, are implied by the use of the verb ζώουσιν, which stresses active behaviour as well as passive functions such as perception and understanding. Jaeger well concludes (p. 180) that 'Heraclitus was the first philosopher to introduce the idea of φρόνησις and to put it on a level with σοφία: that is, he connected knowledge of Being with insight into human values and conduct, and made the former include the latter'.[1] It is important not to be misled by the contrast between ξυνοῦ and ἰδίαν into thinking that an equally exact contrast exists between λόγου and φρόνησιν: this would lead—and has led some scholars[2]—to the

[1] Snell, 'Die Ausdrücke f. d. Begriff des Wissens in d. vorplatonischen Philosophie', *Ph.U.* 29 (1924) 38 f., remarks on the strong verbal force retained in verbal nouns in -σις, which, as Diels, *SB Ber* (1901) 190 ff., held, were invented chiefly in the earlier part of the fifth century. Unfortunately φρόνησις does not fall within Snell's subject: in it the strong verbal force is not immediately apparent, but it is present nevertheless, so that we should perhaps translate φρόνησιν in fr. 2 as 'process of understanding (through perception)'.

[2] Notably E. Löw, who in a series of articles (*Arch. f. Gesch. d. Philos.* n.s. 24 (1918) 63 ff.; earlier ones cited by Nestle, *op. cit.* n.s. 18 (1912) 275, in his

conclusion that λόγος refers to a type of understanding or apprehension. On the contrary, it refers to an *object* of such a mental process—the primary object, in that it occurs in all things and events without exception. Thus there is sufficient connexion between λόγου and φρόνησιν to ensure that the opposition between their significant epithets is not lost; but it is a connexion of relation rather than of kind. The opposite of ἰδία φρόνησις would not be ξυνὴ φρόνησις, which is nonsense (in spite of fr. 113D), but φρόνησις τοῦ ξυνοῦ, which would include the ξυνὸς λόγος. We cannot separate φρόνησις from its objects any more than from its results (speech or action): it is the objects which are primarily 'private', and thence the process of apprehending and thinking about those objects. There is little need to add that this way of thinking cuts one off from the real world and the chance of recognizing the common formula which permeates that world: one is as though asleep, in the private and delusory world of dreams. For other expressions in the fragments of the idea implicit in ἰδίαν φρόνησιν see p. 47.

Nothing has been said so far, either under this fragment or under fr. 1, about the accuracy of Sextus' interpretation of these statements. Sextus is writing from the point of view of a sceptic, whose main interest is in epistemology: he therefore gives them an epistemological interpretation. On fr. 1 he remarks: 'Hereby he expressly propounds that we do and think everything by partaking in the divine Logos.' His comment on fr. 2 is quoted in the translation above: ἡ δ' ἐστὶν οὐκ ἄλλο τι ἀλλ' ἐξήγησις . . . cannot mean (as Löw, in the first of the articles cited above, thought it meant) that the φρόνησις of fr. 2 is the 'explanation of the manner of the government of the universe'; ἡ is quite obviously attracted by ἐξήγησις from τό, and refers either to the proposition that the Logos is common, or to the whole of frr. 1 and 2. Finally, he concludes by saying (VII, 134, after ψευδόμεθα): 'In these words too (i.e. fr. 2) he now most expressly declares the common Logos to be the criterion, and says that those things which appear in common to all are reliable, as being judged by the common Logos, while those which appear to each man privately are false.' These comments show clearly that Sextus accepts the Stoic interpretation of Logos as the universal Reason, in which men share; on to this concept he has grafted the epistemological view that the criterion of truth is its universality. There is nothing in this which corresponds with what Heraclitus appears to have meant by his λόγος. As has been seen, the Logos being common to all things and to all men means for Heraclitus that it is a fact, and a fact of the greatest importance for men; it is also within the reach of all. But there is no explicit epistemology in this beyond the axiom that beliefs which do not correspond with the real state of things are deceptive. Fr. 113D has already been considered under fr. 114 (to which it has frequently been attached), and the conclusion reached that it is a vague paraphrase, particularly of fr. 2. It looks as though some ingenuous interpreter reasoned thus: 'Heraclitus criticized the majority of men for having an ἰδίαν φρόνησιν: therefore he thought that φρονεῖν should be ξυνόν.' The only adequate interpretation of the sentence as it stands, with or without πᾶσι (which is omitted in Plotinus), depends on giving φρονεῖν the sense εὖ φρονεῖν or σωφρονεῖν, which it only carries in Heraclitus in other members of this suspicious group of sayings in Stobaeus, frr. 112D and 116D.

refutation of Löw, to which must be added Löw's article on fr. 2 in the same volume, 456 ff.) advanced the extraordinary view of a quarrel between Heraclitus and Parmenides on epistemological matters, in which Heraclitus *attacks* λόγος as 'abstract idea'. Reinhardt, *Parmenides* 62 ff. and 217 ff., was also misled by the preconception that λόγος must mean something in the same category in Heraclitus and in Parmenides: he translated it as 'Denkgesetz'. Löw's article on φρονεῖν and νοεῖν in H. and P., *Phil. Wochenschr.* 49 (1929) cols. 426 ff., is vitiated by the same primary blunder.

Another saying attributed to Heraclitus, fr. 89D (95B), seems to be a later paraphrase partly of the last clause of fr. 2 and partly of the last sentence of fr. 1: Plutarch *de superst.* 3, 166C ὁ Ἡράκλειτός φησι τοῖς ἐγρηγορόσιν ἕνα καὶ κοινὸν κόσμον εἶναι, τῶν δὲ κοιμωμένων ἕκαστον εἰς ἴδιον ἀποστρέφεσθαι. τῷ δὲ δεισιδαίμονι κοινὸς οὐδείς ἐστι κόσμος· οὔτε γὰρ ἐγρηγορὼς τῷ φρονοῦντι χρῆται οὔτε κοιμώμενος ἀπαλλάττεται τοῦ ταράττοντος. . . . Diels accepted only the first clause ('to those who are awake there is one common world') as Heraclitean: so Kranz in DK. However, the choice of words does not support this view: κοινόν instead of ξυνόν may be a single alteration by Plutarch for the sake of clarity; more important, however, is the use of κόσμον here. A full discussion of the early uses of this word can be found under fr. 30 (pp. 311 ff.); there the result is reached that for Heraclitus its sense is the basic one of 'order', rather than the common derived sense of 'world'. In the words attributed to Heraclitus by Plutarch the sum of one's experience is meant, and the sense of 'order' certainly cannot be

stressed. In Plutarch's subsequent comment the interpretation of κόσμος is less sure; what he means is that the superstitious man cannot achieve a sane and single view of things, either waking or sleeping; but unless κόσμος is to refer to the order of his thoughts (an interpretation which cannot be applied to the words attributed to Heraclitus) it must be closer to the sense of 'world'. The second part of the quotation also contains signs of rewording. Elsewhere (frr. 75, 88; 1, 21, 26) Heraclitus uses καθεύδειν or εὕδειν for 'sleep'—not that this is a binding argument, for κοιμᾶσθαι is a perfectly possible word for him to have used, too. Also, with ἴδιον we must presumably understand κόσμον, which would be equally suspect here as above. Possibly ἰδίην or οἰκηίην should be read (see p. 284): ἕκαστον εἰς οἰκηίην ἀναστρέφεσθαι[1] is possible archaic Greek, and reminds one of the language (though not the odd sense) of a saying attributed to Pythagoras by Hippolytus, *Ref.* VI, 26 (p. 153 W.) ἐκ τῆς ἰδίης ἐὰν ἀποδημῇς μὴ ἐπιστρέφου· εἰ δὲ μή, Ἐρινύες Δίκης ἐπίκουροί σε μετελεύσονται. The last sentence is almost identical with the last sentence of Heraclitus fr. 94, where, however, the context is quite different; and it is impossible not to wonder whether the first sentence also is really derived from Heraclitus: see, however, the discussion on p. 285. On the whole I am inclined to hazard the conjecture that ἕκαστον...ἀποστρέφεσθαι represented some words of Heraclitus which reproduced more graphically the idea of ἰδία φρόνησις: perhaps they were, as Plutarch suggests, originally connected with a word for sleepers; though the final part of fr. 1, which was presumably well known, would be quite sufficient in itself to cause the connexion of 'each returns to his private land' with sleep, as an analogy to the condition of most men when awake. The earlier part of Plutarch's attributed sentence, on the other hand, has no claims to originality. Neither part adds materially to what we already know.[2]

[1] ἀναστρέφεσθαι D, ἀποστρέφεσθαι codd. cett. Either reading is possible.

[2] It is true that Plutarch's quotations from Heraclitus usually seem to be trustworthy: but most of them are quotations in direct speech, while the indirect speech of this passage leaves the way open for considerable freedom. No other reference to Heraclitus' own words is thus obliquely introduced after φησί.

50

(1 B)

Hippolytus *Refutatio* IX, 9, 1 (p. 241 Wendland) Ἡράκλειτος μὲν οὖν[1] φησὶν εἶναι τὸ πᾶν διαιρετὸν ἀδιαίρετον, γενητὸν ἀγένητον, θνητὸν ἀθάνατον, λόγον αἰῶνα, πατέρα υἱόν, θεὸν δίκαιον·[2] **οὐκ ἐμοῦ ἀλλὰ τοῦ λόγου[3] ἀκούσαντας ὁμολογεῖν σοφόν ἐστιν ἓν πάντα εἶναι,**[4] ὁ Ἡράκλειτός φησι· καὶ ὅτι τοῦτο οὐκ ἴσασιν πάντες οὐδὲ ὁμολογοῦσιν ἐπιμέμφεται ὧδέ πως ... (seq. fr. 51).

1 οὖν ⟨ἓν⟩ φησιν Bernays, Diels. 2 δίκαιον ⟨ἄδικον⟩ Diels; ... θεόν· δίκαιον οὐκ ἐμοῦ κτλ. Bergk, H. Gomperz. 3 λογμτ (with ος above) cod., em. Bernays. 4 εἰδέναι cod., Bergk, Bernays, H. Gomperz: em. Miller fere omnium consensu.

Heraclitus, then, says that the whole is divisible and indivisible, has come into being and not come into being, is mortal and immortal; that Logos is Aeon, the Father is the Son, God is Justice: Listening not to me but to the Logos it is wise to agree [*homo-log-ein*] that all things are one, *says Heraclitus: and that they all ignore this and do not agree he complains in words like these:...(fr. 51 follows).*

Hippolytus, after affirming that the heresy of Noetus that Father and Son are the same is really derived from Heraclitus and therefore pagan, introduces a series of quotations from Heraclitus in substantiation of this, of which this is the first. Heraclitus held that all apparent opposites are really the same; therefore, Hippolytus concluded, there is no difference between father and son—an identification which Hippolytus believed to be implied in fr. 52. The opposite qualities which Hippolytus here attributed to the Whole, and the identifications of Logos and Aeon, etc. (which seem to be separate identifications, and not necessarily descriptions of the Whole), represent his own ideas[1] and are irrelevant to an objective assessment of Heraclitus; thus it is unnecessary to try to reconcile Hippolytus' anachronistic description of Heraclitus' theory with the actual words quoted, by supplying with Diels 'the whole *is one*, divisible and indivisible...'. Two of Hippolytus' pairs of words are difficult:

[1] Though formally based on fr. 67; cf. also the gloss embedded in that fragment: τἀναντία ἅπαντα· οὗτος ὁ νοῦς.

perhaps, as Kranz in DK suggests, λόγον αἰῶνα means 'the eternal Logos is the same as a lifetime'—but not all the pairs are true opposites, and the reference is probably to Gnosticism, as with the next pair; Valentinus held that the τέλειος Αἰών produced Νοῦς, which produced Λόγος and Ζωή, according to Irenaeus *adv. heres.* I, I. The last pair has given rise to much unnecessary speculation; Diels wanted to supply ἄδικον, but this leaves θεόν in the air, as does the theory of Bergk, adopted by H. Gomperz (*Wiener St.* 43 (1922–3) 118), that δίκαιον really belongs to the quotation from Heraclitus. Even more improbable is Heidel's suggestion that the contrast is a reminiscence of Plato *Crat.* 412D–413A, where both δίκαιον and Δία are derived from διαϊόν. Not surprisingly the right solution is supplied by a student of Hippolytus, not of Heraclitus: Wendland, *Hippolytus* III, 241, explains that there is a common Gnostic antithesis of θεός (the Old Testament Jehovah) and δίκαιον (the absolute God), especially in Marcion.

The writer of the single extant manuscript of this part of Hippolytus' treatise was obviously unsure whether δόγματος or λόγου was correct in the quotation; we need not hesitate to accept the second since, apart from the facts that only thus does the sentence have any point, and that an opposition between a person and his opinion or teaching is impossible (see on fr. 1), the word δόγμα is not found before the fourth century B.C.

Bergk and H. Gomperz, by trying to retain the ms. reading εἰδέναι, and taking δίκαιον into the quotation as that on which ὁμολογεῖν depends, get into difficulty with ἐστιν. Apart from this, 'the one Wise knows all things' or 'Wisdom is one, to know all things', is scarcely what we should expect. I do not believe, as will be shown later under Group 12 (frr. 41, 32, 108), that Heraclitus envisaged an absolute τὸ σοφόν which was identical with the Logos; nor, if σοφόν ... ἕν here is equivalent to ἓν τὸ σοφόν in fr. 41 (it is obvious in any case that the omission of the article is difficult; more difficult, for example, than in fr. 108), does it seem likely that wisdom for men should consist in 'knowing all things'—a difficult task indeed, while the gist of Heraclitus' other remarks is that the truth about things (implying wisdom) is not impossible to find. In fr. 41 wisdom is said to consist in this alone, the understanding of 'how things are controlled'. This is a much smaller subject. The fact that ἴσασιν occurs in the remark of Hippolytus

which follows is, as Gigon commented, no support for εἰδέναι: for the object of ἴσασιν is the same as the object of ὁμολογεῖν. The Paris ms. is by no means impeccable; εἶναι is far more tolerable on the grounds of sense, and the emendation may be accepted.

It has already been shown that ὁ λόγος for Heraclitus usually means something outside himself, namely, the formula of all things. The sense 'my Word', even if the *content* of the 'Word' is read into this as well, has been shown to be unsuitable in most contexts in the fragments, but particularly in this one. A contrast between a speaker and his λόγος is too bizarre,[1] and especially for Heraclitus, who shows no signs of wishing to subdue his own personality in his pronouncement of the truth. The use of ἀκούσαντας does not affect the issue; in fr. 2 τὸ ξυνόν was the object of ἕπεσθαι, which thus has a diminished quasi-metaphorical sense, 'act in accordance with'. So it may be here—ἀκούσαντας might simply imply 'obey'. On the other hand, it may be explained as referring primarily to ἐμοῦ: or the verb is due to the fact that a Logos in another sense is 'heard'. Finally, it is perfectly possible that some degree of personification of Logos is implied: the Logos is present in all things, it is obvious, it 'speaks its presence'.[2] Hölscher is surely too literal in asking 'by whom the Logos is spoken' (*Varia Variorum: Festgabe f. K. Reinhardt* 71). Heraclitus is trying to say that the truth which he wants to propagate is not just some idea of his own: it can be detected in many different ways, for it is common to all things; his own explanations, however, should make it more readily comprehensible (see fr. 1). οὐκ ἐμοῦ should not of course be taken as prohibiting men from listening to Heraclitus, rather it implies that his words have an absolute authority from outside. Gigon 44 has well suggested that the contrast between ἐμοῦ and λόγου corresponds in some degree with that of ἴδιον and ξυνόν in fr. 2; but in Heraclitus himself, it should be added, ἴδιον had been submerged in τὸ ξυνόν.

In ὁμολογεῖν we should recognize a deliberate pun with λόγου; such puns are common in Heraclitus' fragments, cf. frr. 1 (twice), 20, 25, 26, 28, 48, 114 (twice). Some of these puns or word-plays may be mere stylistic devices which seemed attractive at this stage of prose

[1] Gigon 44 compares Parmenides fr. 2, 1 εἰ δ' ἄγ' ἐγὼν ἐρέω, κόμισαι δὲ σὺ μῦθον ἀκούσας: but here the speaker and his word are identified, not opposed.

[2] Snell, *Ph.U.* 29 (1924) 48–9, shows that the use of the word συνίημι implies a similar conception.

writing. Others, however, claim to reveal a real connexion between apparently different things which bear similar (but not necessarily identical) names: the best examples of this are μόροι...μοίρας in fr. 25, δοκέοντα...δοκιμώτατος in fr. 28, τόξῳ (=βιῷ)...βίῳ in fr. 48, and ξὺν νόῳ...ξυνῷ in fr. 114. Thus the manner of one's death is connected with one's 'portion' afterwards; the most renowned men often have the most illusory opinions; the bow is the instrument of death, though it has a name like 'life' (even this connexion by opposition seems to have significance for Heraclitus); to have common sense one must rely on the 'common'. There is no evidence that Heraclitus went deeper than this into the theory of names, even if Cratylus did: but even from these examples it may be inferred that verbal coincidences were not disregarded by him: cf. Snell *Hermes* 61 (1926) 369ff. Just as λόγου in this fr. 50 means something far beyond 'word', so does ὁμολογεῖν mean more than 'say the same word as' or 'agree'—though it certainly has this sense too. It means 'be similar to, in tune with, the Logos': it means not opposing the Logos by refusing to recognize it; it means 'assimilation' of the common formula of things after 'hearing' or 'listening to' it. In Heraclitus' time ὁμολογεῖν was still, perhaps, a neologism (it *might* have been used by him in the next fragment (51) quoted by Hippolytus, though probably we should read ξυμφέρεται: see p. 204); it was used by no other philosophical writer before the middle of the fifth century (but often by Herodotus). It is not therefore surprising that the reader or hearer should be expected to understand its specialized meaning here, with emphasis on the two component words as well as on the whole.

The result of listening to the Logos is agreement that all things are one. The Greek words could be translated 'one thing is all things', but this would not accord with the sense of the rest of the fragments: admittedly fire is in some way primary or basic, and we learn that 'all things are an exchange for fire' (fr. 90), 'fire's turnings, first sea...' (fr. 31); in fr. 30 this κόσμος is said to be 'everliving fire' (but it will be argued that κόσμος there is not exactly equivalent to 'all things'). Yet it is quite clear from the large number of fragments devoted to exemplifying the real unity of apparent opposites, and from the final examination of the sum of Heraclitus' pronouncements, that the Logos means not that a particular single ἀρχή is all things (which would be implied by taking ἕν as the subject), but that all

things are connected by an underlying unity. It *means* this; can we say that it *is* precisely this? That is a difficult question indeed, for it raises the problem of the *kind* of reality which Heraclitus was prepared to give to the Logos—which, since it was common to all things, was presumably fully real. It is commonly said that the Presocratic thinkers were corporealists, and this is indeed the case: both Empedocles and Anaxagoras, for example, were compelled to describe in corporeal terms what we should call 'forces'. However, the fact that Anaxagoras called his Nous, which permeates and provides the motive force for all things, 'the finest (most subtle) of all', shows that he was going as far as he could in ridding of gross corporeality a substance which controlled matter. If held down to the point, any Greek physicist before the time of Socrates would have been forced to admit that everything had body and corporeal substance: otherwise it would not 'exist'. Doubtless Heraclitus would have been no exception. But we have no right to think that he was ever held down to this particular point: it may be suspected that some thinkers carefully avoided defining postulates such as motion or controlling force for the very reason that when expressed in corporeal terms they would lose their plausibility. This is probably the case with Parmenides' homogeneous 'Being'. It may be the case with the Logos of Heraclitus: the Logos is something which is common to all things, according to which all things happen; that it is not simply a truth about things, determined by human analysis, is shown by the phraseology of fr. 114, where the 'divine law' which is akin to the Logos is described in material terms which are probably not just due to personification. The Logos is a component of each different object, yet has a single collective being: it is the component of order or structure or arrangement, not the whole of an object's structure or shape but that part of it which connects it with everything else. As a component of things it is, it might be inferred, corporeal—some substance which makes things behave in a particular way, just as the Φιλότης of Empedocles makes different 'roots' mingle. This is guesswork and goes beyond what Heraclitus tells us; however, I shall try to show under fr. 30 that κόσμος there, as elsewhere in the fragments, means 'order', and therefore corresponds with the structure of particular objects which in its collective application may be termed the formula of things—a formula being an abstraction from a complex rather than a purely external analysis

of it, just as H_2O is 'in' a drop of water in that its components are hydrogen atoms and oxygen atoms, the former being twice as numerous as the latter. In fr. 30 κόσμος is identified with fire, but fire undergoing a process: it may not be going too far, therefore, to say that in so far as the Logos, which is closely related to this κόσμος, is thought of as a material component of the things to which it is 'common', it is thought of as a form of fire; to which should be added that Heraclitus perhaps as far as possible avoided thinking about the Logos in this analytical way. The Logos is the formula, structure, plan, of each thing and all things: this is the important point. *As such* it results in the fact that 'all things are one' in two ways: they are 'one', first, in that they all have a common component, part of their structure; and secondly, because they all connect up with each oth[illegible] structure. Heraclitus, here as elsewhere, uses the concept of 'oneness' or identity very loosely. For two objects or events to be caused by the same thing, or belong to the same category (absolutely or relatively), or act in the same way, is enough for Heraclitus to say that they are 'one' or 'the same'. However loosely used, that 'all things are one' is not the Logos itself—rather it is the conclusion one would form as a result of apprehending this Logos. This is what the fragment itself suggests: ἀκούσαντας has temporal or logical priority over ὁμολογεῖν. But this very conclusion is implicit in the Logos without any process of human inference: to say 'all things are one' is itself to suggest this inference, however, for it is a statement that only makes sense in opposition to the unreal supposition that 'all things are not one'.

The reasons for Heraclitus' statement that all things are one become apparent in the fragments of Groups 2–5; these fragments provide examples of the ways in which the λόγος manifests itself in various objects and events. The fact that Heraclitus induced from these examples the generalization that all things are one is itself of great importance: for he was the first thinker, as far as we know, *explicitly to define* a connexion between the apparent plurality of the phenomenal world and an underlying unity which, in some form or other, was automatically presupposed by the earlier Presocratics. Aristotle readily detected this common presupposition and put it into the form of a concise and explicit assertion, like ἓν πάντα εἶναι—an assertion which was consequently attributed to many early thinkers in the doxographical accounts. Xenophanes in particular, being wrongly

associated with the Eleatics, was credited with this statement: cf. 21A29, 31, 33, 34. An interesting form of this assertion occurs in the Hippocratic treatise *de nat. hom.* 1 (VI, 32 Littré), φασί τε γὰρ ἕν τι εἶναι ὅ τί ἐστι, καὶ τοῦτ' εἶναι τὸ ἓν καὶ τὸ πᾶν, κατὰ δὲ οὐνόματα οὐχ ὁμολογέουσιν· λέγει δ' αὐτέων ὁ μέν τις φάσκων ἠέρα εἶναι τοῦτο τὸ ἓν καὶ τὸ πᾶν, ὁ δὲ πῦρ, ὁ δὲ ὕδωρ κτλ. This passage shows that the kind of analysis of early theories of nature which we are discussing was made before Aristotle: but in any case it is to the period of criticism from the late fifth century onwards, and not to the period of early physical speculation, that we owe most extant statements of the ἕν–πάντα relationship. A relationship different (though not essentially so, one may suppose, in the eyes of Heraclitus: see Group 5) from that of identity is most clearly expounded in Empedocles fr. 17, 1f., with which Heraclitus fr. 10 (q.v.) was inevitably confused:

> δίπλ' ἐρέω· τοτὲ μὲν γὰρ ἓν ηὐξήθη μόνον εἶναι
> ἐκ πλεόνων, τοτὲ δ' αὖ διέφυ πλέον' ἐξ ἑνὸς εἶναι.

This idea of the growth of many out of one, and of one out of many, was adopted by Aristotle (e.g. *Met.* A 3, 983b8f.), and thence by Theophrastus (frr. 1, 2) and the doxographers, as an explanation of the *identification* of one and many (or one and all) by Heraclitus; and this in spite of the distinction clearly drawn by Plato *Sophist* 242D, E.[1]

The use of the word σοφόν emphasizes once again that the apprehension of the Logos, and the perception that all things are really one, is not a philosophical luxury but a pragmatical necessity for men. They themselves are connected with their surroundings, and their relations with those surroundings are obviously improved if this connexion is understood. The use of σοφόν by Heraclitus is further described under Group 12: in its human application it always seems to apply to an intellectual and practical accord between men and their environment.

[1] The later occurrences of this type of formula cited by Norden, *Agnostos Theos* 247f.; Stenzel, *Metaphysik d. Altertums* 82; Gigon 45f., are totally irrelevant to Heraclitus and are of interest only for a study of doxographical method. Cf. also pseudo-Musaeus (DK 2A 4) and Xenophanes fr. 27, the authenticity of which has been widely and justifiably doubted. Gigon fails to see that the formula of Heraclitus fr. 10 is a special application of the formula in fr. 50, and treats the former as an expression of the real meaning of the latter.

GROUPS 2–8

Reasons for accepting the conclusion, connected with the Logos, that 'all things are one'; different examples of this principle; general statements of the unity in the world around. Tension and change are necessary to preserve this unity.

The unity of all things is for Heraclitus proved by the essential unity of apparent opposites. This unity expresses itself in different ways: (1) opposites are 'the same' relatively to different observers, or to different aspects of the same subject (Groups 2–4). (2) Opposites are 'the same' because they inevitably succeed one another: they are different degrees of the same quality, or different poles of the same continuum (Group 5). These different modes of the unity of opposites are illustrated by concrete examples, cf. Philo *Qu. in Genes.* III, 5, p. 178 Aucher 'hinc Heraclitus libros conscripsit de natura a theologo nostro mutuatus sententias de contrariis, additis immensis iisque laboriosis argumentis'.

GROUP 2

Frr. 61, 13 [+37D], **9** [+4D]

The same thing is regarded in opposite ways by different types of observer; and has opposite effects on different subjects. A certain food or activity is good for animals but the opposite for men, and vice versa.

61

(52 B)

Hippolytus *Refutatio* IX, 10, 5 (p. 243 Wendland) καὶ τὸ μιαρόν φησι καὶ τὸ καθαρὸν ἓν καὶ ταὐτὸν εἶναι, καὶ τὸ πότιμον καὶ τὸ ἄποτον ἓν καὶ τὸ αὐτὸ εἶναι· **θάλασσα, φησίν, ὕδωρ καθαρώτατον καὶ μιαρώτατον· ἰχθύσι μὲν πότιμον καὶ σωτήριον, ἀνθρώποις δὲ ἄποτον καὶ ὀλέθριον.**

And he says that the polluted and the pure are one and the same thing, and that the drinkable and the undrinkable are one and the same thing: Sea, *he says*, is the most pure and the most polluted water; for fishes it is drinkable and salutary, but for men it is undrinkable and deleterious.

In this fragment Heraclitus' theory that opposites are the same because they can inhere simultaneously in the same subject, in the judgement of observers of a different type, is expressed in its clearest form. Sea water is bad for men to drink, good for fishes: therefore, the implicit conclusion is, in this case good and bad (strictly, salutary and deleterious) are 'the same'. This is a relativist view; but there is no indication in the fragments that Heraclitus based any epistemological conclusions on this view—for him such facts were of interest only because they showed that the opposites were not essentially different, as they appear to be. No doubt the importance which the cosmological opposites, especially the hot and the cold, the dry and the moist, had for his predecessors and contemporaries gave this discovery a special significance. Anaximander, notably, had named the hot and the cold as the first pair of differentiated things to be separated out of the ἄπειρον: the discovery, therefore, that pairs of opposites in general were not truly differentiated, vitiated his and similar explanations of the emergence of a number of different things out of a primary unity. It should be unnecessary to say that for both Heraclitus and Anaximander 'the opposites' were opposite *things*; hot and cold, salutary and deleterious, had a real, corporeal existence of their own, and were actual components of more complex objects with which they

happened to be connected: this view, doubtless never defined in these clear terms by Anaximander and Heraclitus themselves, is the natural predecessor of a concept of quality.

The fragment is quoted by Hippolytus after frr. 50–60, all of which are adduced to illustrate Heraclitus' belief that apparent opposites are the same, a belief which for Hippolytus was an anticipation of Noetianism. The same instance recurs in Sextus Empiricus *Pyrrh. hyp.* I, 55 καὶ τὸ θαλάττιον ὕδωρ ἀνθρώποις μὲν ἀηδές ἐστι πινόμενον καὶ φαρμακῶδες, ἰχθύσι δὲ ἥδιστον καὶ πότιμον. This is quoted in a list of examples of the different effects of the same thing on different animals: it is of course an obvious one, and may have been thought of independently in the Sceptic school. Only the fact that it immediately precedes another Heraclitean instance (cf. fr. 13) suggests that there is more than an accidental connexion. With Sextus, of course, all such instances lead to a purely epistemological conclusion: *ibid.* 58 εἰ τὰ αὐτὰ τοῖς μέν ἐστιν ἀηδῆ τοῖς δὲ ἡδέα, τὸ δὲ ἡδὺ καὶ ἀηδὲς ἐν φαντασίᾳ κεῖται, διάφοροι γίνονται τοῖς ζῴοις ἀπὸ τῶν ὑποκειμένων φαντασίαι. The same instance occurs at *de victu* I, 10 (DK 22 C 1; VI, 484 Littré) ...θαλάσσης δύναμιν, ζῴων συμφόρων τροφόν, ἀσυμφόρων δὲ φθόρον. Cf. *de nutrimento* 19 (DK 22 C 2; *CMG* I, 1, p. 80) ἐν τροφῇ φαρμακείη ἄριστον, ἐν τροφῇ φαρμακείη φλαῦρον· φλαῦρον καὶ ἄριστον πρός τι. This latter treatise also contains superficial reminiscences of some fragments. Gigon 40 maintained that the form of expression in *de victu* I, 10 showed this instance to be taken from sophistic rhetoric rather than from Heraclitus: this is by no means certain, but undoubtedly the contrary properties of sea water were notable enough to have struck others as well as Heraclitus. Perhaps he merely took over and adapted some popular saying on the subject.[1]

[1] I should make it clear that the use of 'relative', 'relativist' and so on in the discussion of fragments in this Group is not intended to imply any *homo mensura* subjectivism. It was the fact that the relation man: sea-water was in certain respects opposed to fish: sea-water that struck Heraclitus as significant. He may not on every occasion have isolated the cause of this kind of opposition; but it seems to have possessed objective status in his eyes, not only in the difference between man and fish but also in the complex structure of sea-water itself. See further my article 'Men and opposites in Heraclitus', *Mus. Helv.* 14 (1957) 155 ff.

13

(54B)

(*a*) Athenaeus v, 178F ἀπρεπὲς γὰρ ἦν, φησὶν Ἀριστοτέλης, ἥκειν εἰς τὸ συμπόσιον σὺν ἱδρῶτι πολλῷ καὶ κονιορτῷ· δεῖ γὰρ τὸν χαρίεντα μήτε ῥυπᾶν μήτε αὐχμεῖν μήτε **βορβόρῳ χαίρειν** καθ' Ἡράκλειτον.

(*b*) Clement *Protrepticus* 92, 4 (I, p. 68 Stählin) ...ὑώδεις τινὲς ἄνθρωποι. **ὕες** γάρ, φησίν, **ἥδονται βορβόρῳ μᾶλλον ἢ καθαρῷ ὕδατι** καὶ ἐπὶ φορυτῷ μαργαίνουσιν κατὰ Δημόκριτον.

(*c*) Columella VIII, 4 (= fr. 37D, 53B) ...si modo credimus Ephesio Heracleto qui ait *sues caeno, cohortales aves pulvere vel cinere lavari.*

(*a*) *For it would be unbecoming, says Aristotle, to come to the banquet covered in sweat and dust; for the true gentleman should neither be dirty nor be unwashed nor* Rejoice in mire *as Heraclitus says.*

(*b*) *...pig-like fellows. For* Pigs, *he says,* delight in mire rather than in clean water, *and have a mad greed for rubbish, according to Democritus.*

(*c*) *...if only we believe Ephesian Heraclitus who says that* Swine wash in mire, farmyard birds in dust or cinders.

This fragment has to be reconstructed from three different elements: (*a*) gives two words definitely attributed to Heraclitus; (*c*) appears to be a loose paraphrase of the sentence from which (*a*) was taken, the whole sentiment being attributed to Heraclitus; (*b*) gives a corresponding sentence in Greek, but with no attribution. From the evidence of (*c*) and (*a*) it seems legitimate to assume that (*b*), which is distinguished as a quotation, really belongs to Heraclitus. The words may have been slightly changed—indeed, (*a*) suggests that χαίρουσι rather than ἥδονται was the verb used. The important thing is the occurrence of 'mire' or 'filth' in all three fragments, and the fact that (*b*) and (*c*) suggest clearly that the proper subject of the Heraclitean phrase in (*a*) was 'swine' rather than (as suggested by the context) 'swinish men'.

In (*a*) there is no reason to imagine, with Zeller, ZN 911, or Wendland, *SB Ber* (1898) 788f., that the quotation from Aristotle (= V. Rose, *Aristotelis Fragmenta* no. 100) extends to the end of the sentence and includes the quotation from Heraclitus. Presumably it ends at κονιορτῷ: then the second γάρ marks the resumption of Athenaeus' own comments, and leads to his quotation from Heraclitus which is parallel with that from Aristotle. In (*b*) φησίν has no definite subject in what precedes; it marks ὕες ἥδονται...ὕδατι as a definite quotation and, as all scholars have seen, clearly distinguishes it from the sentiment assigned to Democritus. At Plutarch *de sanit. praec.* 14, 129A the same short phrase is also associated with Democritus: see DK 68B147. (*c*) shows signs of not being an accurate translation: 'pulvere vel cinere' probably represents a single word of the original, for Heraclitus was not given to meticulous specification of redundant alternatives: moreover, 'pulvis et cinis' is a phrase used by Columella just before. In fact only the first two words correspond closely with what is attributed to Heraclitus in the Greek sources, though 'lavari' (laetari? R. Hackforth) is an easy variation from χαίρειν or ἥδεσθαι. The mention of farmyard birds which wash in (or delight in) dust seems to be separate from the statement about pigs. It is hardly likely to be merely an arbitrary expansion by Columella: he has just said that dust or ashes should be placed near the wall of the poultry-enclosure for the birds to clean their feathers in, and then quotes from Heraclitus as evidence for the fact that poultry cleanse themselves in this way. The mention of pigs is not at all relevant to his purpose. It may be presumed therefore that he *did* find, in one of his sources, the statement about farmyard birds attributed to Heraclitus, as well as the reference to pigs. There is therefore some justification for treating the former as a separate fragment, as, for example, Bywater (fr. 53B) and Diels (fr. 37) did. However, the statement about poultry is clearly very similar to, and presumably comes from, the same context as that about pigs: Columella is not an unimpeachable authority without other support,[1] and it is perhaps wiser to treat the two instances from the farm together.

That the fuller form of (*b*) is not just due to the addition *by*

[1] Galen, *Protrepticus* 13, p. 19 Kaibel, has a similar observation about certain types of birds, and follows it with a reference to βορβόρῳ: but there is no sign that he is quoting.

Clement of the words μᾶλλον ἢ καθαρῷ ὕδατι is indicated by his repetition of the whole sentence in a different context: *Strom.* I, 2, 2 (II, p. 4 St.) . . .ὄνος λύρας, ἥ φασιν οἱ παροιμιαζόμενοι, τοῖς πολλοῖς τὰ συγγράμματα· ὕες γοῦν. . .ὕδατι. It looks as though he is here capping one proverb with another: either no author was known for the second one or his name was too familiar to need mentioning. At *Strom.* II, 68, 3 (II, p. 149 St.), however, only the short version of the quotation, with the addition of another noun, is given: χοῖρος βορβόρῳ ἥδεται καὶ κόπρῳ. It is impossible therefore to be sure that the whole of the apparent quotation in (*b*) is by Heraclitus: I suspect that it is, although καθαρῷ might not have been the original word.[1]

Three separate interpretations of the fragment have been proposed at different times.

(1) Gigon 121 (after Bernays, *Ges. Abh.* I, 96; Zeller ZN 911) believes that it refers to the majority of men, who in their ignorance behave like pigs: a similar criticism was certainly made by Heraclitus in the last sentence of fr. 29, οἱ δὲ πολλοὶ κεκόρηνται ὅκωσπερ κτήνεα. Wendland 789 had remarked long before that if the words of Heraclitus are to be limited to βορβόρῳ χαίρειν this is a perfectly possible interpretation. H. Fränkel in his article 'A Thought Pattern in Heraclitus', *AJP* 59 (1938) 322, also concludes that (*a*) is analogous to fr. 29, and that Heraclitus is 'denouncing the pleasures of the unenlightened': Fränkel includes it among the 'proportional' statements of Heraclitus, of which fr. 79 (man:child:: god:man) is the clearest example. There is no doubt that this proportional form of exposition was dear to Heraclitus, but it is equally plain that Fränkel tries to bring under this heading many fragments which are equally susceptible of other explanations, and for the certain interpretation of which there is insufficient evidence. Certainly the context of (*a*) in Athenaeus, where men are the subject and the quotation is introduced by δεῖ, does not preclude this kind of interpretation: on the other hand, in another passage where the words of the quotation occur, Plutarch *Quaest. conv.* 671 A, the context is concerned wholly with pigs and the behaviour of men is

[1] Wendland, *SB Ber* (1898) 790, suggests that διειδεῖ in the similar remark by Sextus quoted below, and διαυγεῖ in another instance, Philo *de agricultura* 144, may mean that one of these words or at any rate a compound adjective beginning with δι- stood in the original context. But as neither of these passages is specifically connected with Heraclitus this must remain a remote possibility.

not in question. The fact is that the contexts in which short quotations of this type are used are only rarely, and then perhaps by chance, indicative of the original contexts. A much more trustworthy indication of the original context in this case is provided by the expansion of the quotation, albeit unattributed, in (*b*).

(2) Plotinus, *Enn.* I, 6, 6 (I, p. 91 Volkm.), approves of the 'riddle' propounded in the mysteries that those who have not been purified in their lifetime will lie in mud in Hades, because the impure like mud, οἷα δὴ καὶ ὕες, οὐ καθαροὶ τὸ σῶμα, χαίρουσι τῷ τοιούτῳ [sc. βορβόρῳ]. There is no mention of Heraclitus, but the application of the words of (*a*) to Orphic beliefs about purification and punishment raises the possibility that Heraclitus had some such idea in mind. Fränkel, *loc. cit.* 311 ff. and 323 n. 32, is inclined to attach this kind of interpretation not to fr. 13(*a*), but to a fragment of his own discovering, something like βορβόρῳ κατορύττεται.[1] On the other hand, he does connect fr. 13(*a*) with the idea of purification, though not necessarily Orphic purification, by taking it closely with (*c*), where he throws the emphasis on 'lavari' and compares with fr. 5 in which Heraclitus says that trying to cleanse blood with blood is like trying to wash off mud with mud; (*c*), Fränkel holds, 'implies that those whose horizon is restricted to this world, when trying to cleanse themselves, do nothing but befoul themselves a second time'.[2] Burial in mud in Hades was one of the traditional Orphic punishments, cf. Plato *Rep.* 363 D; Heraclitus' saying, itself perhaps no more than a restatement for a particular purpose of a common

[1] He infers the existence of such a saying from the doxographical stories of Heraclitus burying himself in filth, in his last illness: such stories are usually malicious distortions of well-known sayings by the philosopher. Further, Plato *Rep.* 533 D refers to the soul being 'in truth buried in a kind of barbaric mire'. τῷ ὄντι here certainly indicates an oblique quotation or reference—but to the Orphics, I should say, as elsewhere in Plato, and not as Fränkel maintains to his supposed fragment of Heraclitus and to fr. 107. The stories of Heraclitus burying himself in filth can be adequately explained, on Fränkel's own principles, by the extant frr. 13 and 96.

[2] One is reminded to some extent of the form of fr. 5 by Ostracon Aegypt. 12319, 12, to which Wilamowitz drew attention (*SB Ber* (1918) 743) ἢ (= εἰ) αἱ ὕες περιεστηκυῖαι ἐθεώρουν ἄνθρωπον ἐμ βορβόρῳ βα[πτιζόμεν]ον, οἵων ἂν ἔφασαν τῶν ἀ[γαθῶν ὁ ἄνθρω]πος ἀπολαύει. Wilamowitz rightly remarked that this may be a development of Heraclitus fr. 13, but did not commit himself to an exact interpretation of the fragment: in fact the ostracon supports the relativistic interpretation, (3) below, as much as any other.

observation that pigs enjoy mud, may easily have become attached to the Orphic belief by the time of the ostracon, some three or four hundred years after his day: the common element 'mud' would account for that, and also for the conflation of the two ideas in Plotinus. There is no other evidence in the fragments for specifically Orphic ideas in Heraclitus, and this kind of interpretation of fr. 13 does not seem very plausible.

(3) The third interpretation, and the one which I accept, is that the statement that pigs rejoice in mud is intended to show that the assessment of mud, which is repulsive to men, is a relative one, just as in fr. 61 sea water was shown to be good for fishes and bad for men. Sextus, *Pyrrh. hyp.* I, 55, cited that example, though without mentioning Heraclitus; and immediately afterwards he adduced the example of pigs washing in mud rather than in clean water: σύες δὲ ἥδιον βορβόρῳ λούονται δυσωδεστάτῳ ἢ ὕδατι διειδεῖ καὶ καθαρῷ (cf. also Lucr. VI, 976–8). This introduces the idea of clean water (in which, of course, men like to wash), just as (*b*) does: the relativistic intention is much plainer once the third element, the object of comparison, is mentioned. If (*b*) is to be attached to Heraclitus, as it probably should be, then the interpretation of the whole complex of quotations here treated as fr. 13 should plainly be along these relative lines. Sextus, it should be noticed, uses λούονται, analogous to 'lavari' in (*c*), and not χαίρουσι or ἥδονται: though the idea of joy is expressed by ἥδιον. It may be that 'pigs *wash* in mud' was the original assertion: certainly it makes the opposition between pigs and men more graphic and more clear-cut. But whether there were two original statements by Heraclitus, that pigs delight in mud, farmyard birds wash in mud or dust, or only one, that pigs delight *or* wash (*or* delight in washing) in mud, the sense of the example is plain enough once the object of comparison, 'rather than in pure water', is supplied: not that men are like pigs, or that because they try to cleanse themselves with mud in this life they will wallow in mud in Hades, but that mud is judged in opposite ways by men and pigs. It is both pleasant and unpleasant—therefore these two apparent opposites are not really different, but 'one and the same'.

9

(51B)

Aristotle *Eth. Nic.* K 5, 1176a5 ἑτέρα γὰρ ἵππου ἡδονὴ καὶ κυνὸς καὶ ἀνθρώπου, καθάπερ Ἡράκλειτός φησιν **ὄνους**[1] **σύρματ' ἂν**[2] **ἑλέσθαι μᾶλλον**[3] **ἢ χρυσόν**· ἥδιον γὰρ χρυσοῦ τροφὴ ὄνοις.

1 ὄνους K, Michael: ὄνον L, versio Latina. 2 σύρματ' ἂν codd., Mich.: σάρματ' ἂν H. Lloyd-Jones. 3 μᾶλλον om. Mich.

For there is a different pleasure of a horse and a dog and a man, just as Heraclitus says that Donkeys would choose rubbish rather than gold; *for food is pleasanter to donkeys than gold.*

The Teubner text, ed. Susemihl-Apelt, gives ὄνον: but K is the earliest and on the whole the most reliable ms., and is supported by Michael Ephesius; most editors, among them Bywater and Diels, accept the plural. DK remark that Michael was probably correct in omitting μᾶλλον: αἱρεῖσθαι is otherwise only found with μᾶλλον ἤ when followed by an infinitive; with ἤ alone followed by the accusative it occurs at e.g. Lysias 2, 62. It is plain that an infinitive like ἐσθίειν cannot be supplied, as this would prejudice the sense with χρυσόν, but, for example, ἔχειν would be possible. For another comparison with μᾶλλον ἤ, though not after αἱρεῖσθαι, cf. fr. 43; also the many examples in Democritus cited in DK, index, s.v. The evidence for the impossibility of the construction as it stands in the text of Aristotle is not strong enough to warrant an emendation. Another difficulty is raised by the word σύρματα, which is in all the mss. Michael certainly found it in his text, for he adds an explanation: σύρματα τὸν χόρτον Ἡράκλειτος λέγει (p. 570 Heylb.). σύρμα means 'anything trailed'; this is the only extant passage where the sense is 'trailings, rubbish' (and hence straw, or, more plausibly, chaff: cf. the proverb 'ὄνος ἐς ἄχυρα'). Admittedly another word from the same root, συρφετός, commonly bears this sense, e.g. at Hesiod *Erga* 606 χόρτον . . . καὶ συρφετόν. Yet σύρμα occurs only once in the classical period, and then in a completely different, medical, sense, in the Hippocratic *Epidemiae* IV, 30; one cannot

therefore preclude the possibility that a corruption occurred in the text of Aristotle before it reached Michael of Ephesus, and that his explanation was simply a shot in the dark—although it has been accepted without question by all modern editors, and on the strength of this one passage the sense 'sweepings, refuse, litter' is given in LSJ s.v. I, 2. If there was a corruption, it may have been the extremely simple one from σάρματ' ἄν, as H. Lloyd-Jones suggests. We only know of σάρματα (formed regularly from σαίρω = sweep) from Hesychius' gloss on Rhinthon (= Rhinthon fr. 25 Kaibel): σάρματα· καλλύσματα καὶ κόπρια παρὰ Ῥίνθωνι. (Diels' emendation, retained in DK, of σάρξ to σάρμα in Heraclitus fr. 124 is surely wrong; for a correct explanation of this fragment, retaining ms. σάρξ, see J. McDiarmid, *AJP* 62 (1941) 492 ff., and P. Friedländer, *AJP* 63 (1942) 336.) The advantage of σάρματ' over σύρματ' is that 'sweepings' makes more sense than 'draggings'. A remoter possibility is that of συρμαίαν, the last syllable of which could have been dropped by haplography before ἄν, after which the change from ι to τ might naturally be made. συρμαία means, commonly, the purge-plant: Herodotus, II, 77, tells us that the Egyptians συρμαΐζουσι (i.e. purge themselves with συρμαία) for three days in every month. In chapter 125 of the same book συρμαία is classed with onions and garlic. At Aristophanes *Peace* 1254 the word has the general sense 'purge, emetic'. The scholiast on the Aristophanes passage, who may depend on Didymus here, gives as one definition of συρμαία 'an Egyptian brine made from radishes, suitable for purging'; similarly perhaps at Hippocrates *Mul.* I, 78 (VIII, 186 Littré). Pollux, I, 247, says that in Herodotus συρμαία is a kind of radish, while Erotian, 54, 110, specifies it as the ἐπιμήκης ῥαφανίς. Other definitions of the purge were certainly known in antiquity: Hesychius, s.v., does not mention radish, but only a mixture of fat and honey, or salt and water; συρμίον, he says, is 'a vegetable like parsley', and the Suda gives this parsley-like vegetable under the senses of συρμαία. If we read συρμαίαν in the fragment, the word must refer to some sort of plant or food-stuff palatable to donkeys, and one which has emetic properties: radishes are the most plausible choice. But were radishes abhorrent to humans, in view of their special use as a purge? The ῥαφανίς was a food favoured by the simple, hard-living men of the past, but evidently despised by the con-

temporaries of Aristophanes.[1] Even so, the fact that radishes were once commonly eaten in Attica, and so perhaps by the Ionian contemporaries of Heraclitus, is a notable obstacle to the hypothesis that συρμαίαν should be read in this fragment. The conjecture would not deserve mention, were it not that it provides a rather close parallelism with fr. 4D, discussed overleaf: like bitter vetch, the purge-plant would be eaten by normal men only with reluctance, but each is a favourite food of a species of domestic animal. Even σάρματ', which is a simpler restoration and palaeographically preferable, is not certain. This being so, the ms. reading σύρματ' must stand, even though not fully substantiated. The sense of the fragment remains clear whatever the reading of this word.

To turn to the interpretation of the fragment: Zeller, ZN 794f., suggests that men resemble donkeys because they prefer something coarse (conventional assessments of sense-impressions) to something fine (the Logos); H. Fränkel, *AJP* 59 (1938) 322, holds that an analogous comparison, though expressed in proportional form, is intended, and Cornford (e.g. *From Religion to Philosophy* 193) evidently held a similar view. I believe that we have here not so much a comparison of the majority of men to animals, as in fr. 29, as part of a statement that σύρματα, or the like, are desirable to donkeys and not to men. The mention of gold indicates that another term, i.e. men, is involved: '[Men love gold above all things]: donkeys would choose straw (or sweepings) rather than gold: [men dislike straw (or sweepings) as a food].' The conclusion is similar to that of the two previous fragments, that a certain kind of food is pleasant to donkeys, unpleasant to men; conversely, a certain inedible commodity is pleasant to men, unpleasant to

[1] Aristophanes fr. 253 Kock: the old comic chorus used to carry humble gifts with them as they danced, radishes and ribs of beef and sausage. 'Unwashed radish' occurs as crude fare, perhaps characteristic of the past, at Eupolis fr. 312K, Pherecrates fr. 175K. Chionides, fr. 7K *ap.* Athenaeum IV, 137E, informs us that the Athenians offered leeks, olives and other foods to the Dioscuri, ὑπόμνησιν ποιουμένους τῆς ἀρχαίας ἀγωγῆς. Cratinus, fr. 313K, distinguishes radishes from other vegetables. At Aristophanes *Plutus* 544 it is the leaves of radish that are part of a beggarly diet. The low estimation in which radishes were held is perhaps best shown by Amphis fr. 26K ὅστις ἀγοράζων ὄψον....ἐξὸν ἀπολαύειν ἰχθύων Φαληρικῶν ῥαφανῖδας ἐπιθυμεῖ πρίασθαι, μαίνεται.

 6-2

donkeys:[1] therefore in these cases there is no essential difference between pleasant and unpleasant. As in fr. 13 above, the mention of the human standard alongside the animal one makes it fairly plain that this is the sense intended, especially in view of the analogy of the more complete fr. 61. Fränkel's explanation, although taking account of the non-animal term, gold, is too complicated to be readily accepted.[2]

It need hardly be added that Aristotle's use of this quotation from Heraclitus to illustrate a point of his own about the nature of pleasure has no bearing on the original context of the saying. The conclusion drawn by Heraclitus was entirely concerned with the relationship between opposite judgements of the same object, not with comparative aesthetics or the nature of pleasure as such.

A similar reference to pleasure is made in a sentence attributed to Heraclitus in as late an authority as Albertus Magnus, *de veget.* VI, 401 (p. 545 Meyer) 'Orobus est herba quae a quibusdam vocatur vicia avium...et valet contra venenum: est autem delectabilissimus pastus boum, ita quod bos cum iucunditate comedit ipsum; propter quod Heraclitus dixit quod si felicitas esset in delectationibus corporis *boves felices diceremus cum inveniant orobum ad comedendum.*' This is counted as fr. 4 by Diels and in DK, though with the caution that 'it is doubtful whether the hypothetical setting and the whole protasis is authentic'; the same doubt was expressed by Bywater, who drew attention to the reference to Heraclitus in Albertus and gave a brilliant assessment of its value in *Journal of Philology* 9

[1] There is not necessarily any satirical motive behind the choice of gold as men's desire: that this should not be a form of food strengthens the contrast with animals. Gold was a symbol for high value, as at Pindar *Ol.* 1, 1: this lends a certain plausibility to the interpretation of gold as a symbol for the Logos, but other factors are more strongly in favour of the less abstruse relativistic interpretation. A value-judgement might be implicit in the fragment; if so, it is subsidiary.

[2] If the fragment is a statement of the kind suggested, the plausibility of συρμαίαν for σύρματ' is very slightly enhanced: rubbish or straw would be rather weak as an object of abhorrence to men, for it would not even occur to men to eat it (on the other hand, it may be argued that it would not occur to donkeys to eat gold); the point is made more strongly if a possible, but distasteful, foodstuff is named; and a plant known for its purgative qualities, which could be eaten and indeed was eaten by Egyptians and Greek peasants, would be a good example of such a foodstuff.

(1880) 230ff. It is extremely unlikely that Heraclitus ever discussed the nature of pleasure in this Socratic way, and I have no hesitation in agreeing that the protasis, and probably the hypothetical form of the sentence, is later than Heraclitus. Gigon 121, however, observes that Albertus is presumably only interested in the botanical qualities of *orobus* and has no motive for making ethical observations of his own. This is perfectly true: but the conclusion is not that the tradition is 'relatively dependable', as Gigon thought, but that Albertus derived the reference to Heraclitus from an earlier source, to which the addition about pleasure was due: Meyer suggested a patristic source, with considerable plausibility, and Bywater added that a Neoplatonic source was also possible; but the immediate origin may have been a Byzantine writer on agriculture or *materia medica*. Bywater points out that some of the words attributed to Heraclitus have a distinctly Greek ring, suggesting that they were ultimately derived from a Greek source rather than an Arabic version: the use of the Greek-derived 'orobus' instead of the more familiar 'ervum' or 'vicia' indicates this. That Heraclitus should have made some statement about cattle liking bitter vetch is not improbable in view of frr. 61 and 13: Gigon 121 and H. Fränkel, *AJP* 59 (1938) 322, connect the saying with fr. 29 as a reproach to men for behaving like animals, but as in the case of the other fragments of this group this interpretation seems to be defective. Bywater, *op. cit.* 231, made the following observation: 'The statement, however, is not reproduced with logical completeness, for the words 'est autem delectabilissimus pastus boum' imply that something to the effect that 'orobus is unfit for human food' has gone before.' This may have been understood, for we know from ancient sources that apart from its negative value as an antidote the bitter vetch was considered to be repulsive to humans: its bitter taste is remarked by Theophrastus *C.P.* IV, 2, 2; Demosthenes, XXII, 598, implied that it was only eaten by men in extreme emergencies. On the other hand, its use as fodder for cattle is attested also by Phanias *ap.* Athenaeum 406C, while Galen, *de aliment. facult.* 1, 29 (*CMG* V, 4, 2, p. 257), contrasts the opposing attitudes of men and cattle to this form of food: οἱ βόες ἐσθίουσι τοὺς ὀρόβους παρ' ἡμᾶς τε καὶ ἄλλα πολλὰ τῶν ἐθνῶν ὕδατι προγλυκανθέντας· οἱ δ' ἄνθρωποι τελέως ἀπέχονται τοῦ σπέρματος, καὶ γὰρ ἀηδέστατόν ἐστι καὶ κακόχυμον. ἐν λιμῷ δέ ποτε μεγάλῳ, καθὰ Ἱπποκράτης ἔγραψεν,

ἐξ ἀνάγκης βιαίας ἐπ' αὐτὸ παραγίνονται. The context goes on to mention that bitter vetch is sometimes used as a medicine. Since bitter vetch was, it appears, widely known in antiquity to be pleasant to cattle, unpleasant to men, it is probable that this is the contrast which Heraclitus made in his original use of this example. The sentence, then, of which a distorted version was felicitously preserved by Albertus, was akin to relativistic statements such as frr. 61, 13: the conclusion is that *orobus* is both good and bad, according to the nature of the assessor, and that good and bad, therefore, are in this case too 'the same'. Attested as it is by a single very late (early thirteenth century) source, and expressed in a form which cannot be exactly the one which Heraclitus would have used, this saying does not deserve to be classed as an undoubtedly genuine fragment. It is conceivable that the example of bitter vetch was first given general currency in Sceptic speculation—the long list of such examples, designed to prove the subjectivity of sense-impressions, at Sextus *Pyrrh. hyp.* I, 54ff., has already been mentioned. Bywater reminded us that Aenesidemus, Sextus' main source, was a keen admirer of Heraclitus; two examples in the list are certainly Heraclitean, and although the Sceptics probably expanded it there is no *a priori* reason for dissociating the present example from Heraclitus.

GROUP 3

Frr. 58, 59, 60, 103, 48

The same observer may ascribe opposing attributes to the same object, in certain special cases, because different applications or aspects of the object are being considered. In a sense, the opposing characteristics of such objects, belonging to the objects at one and the same time, show themselves to be connected, to be 'the same'.

58

(57, 58B)

Hippolytus *Refutatio* IX, 10, 2–3 (p. 242f. Wendland) τοιγαροῦν οὐδὲ σκότος οὐδὲ φῶς οὐδὲ πονηρὸν οὐδὲ ἀγαθὸν ἕτερόν φησιν εἶναι ὁ Ἡράκλειτος, ἀλλὰ ἓν καὶ τὸ αὐτό. . . . (seq. fr. 57). . . . καὶ ἀγαθὸν καὶ κακόν [sc. ἐστὶν ἕν]· **οἱ γοῦν ἰατροί,** φησὶν ὁ Ἡράκλειτος, **τέμνοντες, καίοντες,** πάντῃ βασανίζοντες κακῶς τοὺς ἀρρωστοῦντας, **ἐπαιτιῶνται μηδέν' ἄξιον μισθὸν**[1] **λαμβάνειν** παρὰ τῶν ἀρρωστούντων **ταῦτα**[2] **ἐργαζόμενοι,** †τὰ ἀγαθὰ καὶ τὰς νόσους.[3]†

1 ἐπαιτιῶνται μηδὲν ἄξιον μισθ̅ cod.; ἐπαιτέονται μηδὲν ἄξιοι Bernays, Diels; μηδένα Sauppe; μισθῶν Bernays, μισθὸν Bywater, Diels. 2 ταῦτα cod., Bywater, Gomperz; ταὐτὰ Sauppe, Diels, Wilamowitz. 3 τὰ καὶ αἱ νοῦσοι (om. ἀγαθὰ) Wilamowitz; νόσους ⟨ἐκβάλλοντες⟩ Gomperz; καὶ ⟨τὰ κακὰ⟩ τὰς νόσους Sauppe; κατὰ pro καὶ Petersen; καὶ βασάνους coni. Bywater; ταῦτα ἐ. τὰ ἀγαθά. Zeller, Göbel.

Yet Heraclitus says that neither darkness nor light, neither bad nor good, are different, but are one and the same thing . . . (fr. 57) . . . And good and evil are one: at any rate Doctors, *says Heraclitus,* who cut and burn *and in every way evilly torture the sick,* make the accusation that they receive no worthy fee *from the sick* for doing these things, †*the cure having the same effect as the diseases*†.

The text is confused by interpolations by Hippolytus; or more probably by his source, for other quotations from Heraclitus by Hippolytus appear to be remarkably free from unnecessary explanations (but cf. the necessary explanation of an obscure term in fr. 59). Bywater and Diels doubted the originality of βασανίζοντες–ἀρρωστοῦντας and of παρὰ τῶν ἀρρωστούντων: they are inessential to the sense, and diminish the forceful conciseness which is the chief mark of Heraclitus' style. κακῶς particularly is very weak, and Bywater ad fr. rightly held that βασανίζειν in this mock-serious sense suggests post-fifth century Greek: earlier, if the idea of torture is present, it is almost always the torture of slaves *for information*; the idea of extracting information is certainly present at Thuc. VII, 86. In addition, Kranz in DK assigns γοῦν to Hippolytus and

πάντῃ to the interpolating source, correctly in my view; Diels had accepted both words as Heraclitean and had taken πάντῃ with καίοντες. Bywater expressed the following opinion: 'suspicor aliena Heracliteis esse admixta ipsumque Ephesium in hunc fere modum scripsisse: ἰητροὶ τέμνοντες καίοντες κεντέοντες στρεβλοῦντες ἐπαιτιῶνται μηδέν' ἄξιον μισθὸν λαμβάνειν.' It is indeed possible that the phrase 'and in every way torturing the sick' replaces another verb or pair of verbs of the type of τέμνειν καίειν; at some stage in the transmission a list of this type may have been held to be monotonous and perplexing, with the result that it was arbitrarily shortened and a paraphrase added. κεντεόμενοι occurs in the imitation of this fragment at *de victu* I, 15, quoted below; στρεβλοῦντες is a subtle suggestion because the verb can mean either 'torture' or 'wrench a limb in order to set it' as at Hdt. III, 129, and might thus suggest the paraphrase βασανίζοντες.

The words which follow have been subjected to frequent emendation. Bernays' alteration to ἐπαιτέονται μηδὲν ἄξιοι has been widely adopted, e.g. by Diels, Kranz, Gigon, Walzer, as well as Burnet in the last revision of *EGP*. Bernays, however, read μισθῶν, which is certainly closest to the unsatisfactory ms. reading. Diels printed the simpler accusative singular, as have most other editors. It is very difficult to understand why Bywater's (and Zeller's) reading, which only involves the minute alteration of μηδὲν to μηδέν' in the ms. (apart from μισθόν, which the copyist himself could not understand in his text), has not been more widely accepted: at any rate it is accepted here.[1] The senses given by these two different readings are basically different:

Bywater: 'Doctors complain that they do not receive a big enough fee for what they do.'

Diels: 'Doctors demand a fee for what they do, but they deserve nothing at all.'

Diels' version contains a strong criticism of doctors, and suggests that they do no good whatever to their patients, but rather harm, like the diseases themselves. Bywater's version, on the other hand, although it could be interpreted as a mild criticism of doctors for

[1] H. Gomperz, *Zeits. Öst. Gymn.* 61 (1910) 971, always to be relied on for a new punctuation, read ἐπαιτιῶνται μηδέν, ἄξιοι. . . . This gives a good sense ('are not at all blamed, but deserve . . .'), but is not good Greek (present tenses of the verb are not passive; μηδέν should be οὐδέν).

exorbitant charges, chiefly implies that the doctor's work does deserve some sort of fee—it is, to some degree, good.[1] Gigon 26 supports Diels' reading on the grounds that it expresses a popular thought, and that Heraclitus frequently does this (he instances frr. 43, 96, 119): he then cites a number of passages to show that it *was* a popular thought. But these very passages support Bywater's version: the 'popular thought' was that doctors cut and burn (ostensibly bad things) in order to do good—a simple and appealing paradox; it was *not* that doctors are charlatans who only do harm and then demand to be paid for it. There are only two late sources which perhaps suggest this, both of which claim to be interpretations of Heraclitus: the sixth pseudo-Heraclitean letter, which contains an attack on doctors: '...all of them are deceivers, selling tricks of the trade for money; they killed my uncle Heracleodorus and received a fee for it...'; and Diogenes Laertius IX, 3 (see p. 5). Clearly fr. 58 alone, if casually read, could give rise to this kind of interpretation. On the other hand, there are several passages from the classical period which, although unconnected with the name of Heraclitus, make it clear that τέμνειν καὶ καίειν was an almost technical description, and that this kind of treatment was regarded as a necessary means of healing certain conditions. So Aeschylus *Ag.* 848ff. ὅτῳ δὲ καὶ δεῖ φαρμάκων παιωνίων | ἤτοι κέαντες ἢ τεμόντες εὐφρόνως | πειρασόμεσθα πῆμ' ἀποστρέψαι νόσου. Xenophon *Mem.* I, 2, 54 (the argument is that men have so little regard for the body as such that they are prepared to get rid of unnecessary or defective parts of it; no criticism of doctors is implied) ...τοῖς ἰατροῖς παρέχουσι [sc. αὐτούς] μετὰ πόνων τε καὶ ἀλγηδόνων ἀποτέμνειν καὶ ἀποκαίειν καὶ τούτου χάριν οἴονται δεῖν αὐτοῖς καὶ μισθὸν τίνειν (cf. *Anab.* V, 8, 18). Plato *Politicus* 293B τοὺς ἰατροὺς δὲ οὐχ ἥκιστα νενομίκαμεν, ...τέμνοντες ἢ κάοντες ἤ τινα ἄλλην ἀλγηδόνα προσάπτοντες....At *Gorgias* 521E–522A Plato imagines the arguments that a cook would produce against a doctor before a jury of

[1] Nestle (*Philologus* 67 (1908) 535; ZN 804) showed a way in which the reading adopted by Diels could lead to an interpretation not strongly critical of the medical art: 'there is an equal amount of pain and healing; these balance each other out; therefore doctors do not deserve to be rewarded (although they equally do not deserve to be blamed).' But this does not make so strong a contrast between good and bad as the interpretation advanced below, nor does it accord so well with the sense of later versions of the paradox.

children: τοὺς νεωτάτους ὑμῶν διαφθείρει τέμνων τε καὶ κάων, καὶ ἰσχναίνων καὶ πνίγων ἀπορεῖν ποιεῖ....The doctor, says Plato, would tell the truth in reply, that he hurts his patients for their own health: ἢ εἰ εἴποι τὴν ἀλήθειαν, ὅτι "Ταῦτα πάντα ἐγὼ ἐποίουν, ὦ παῖδες, ὑγιεινῶς", πόσον τι οἴει...; Even in a clearly derivative passage in a Heraclitizing part of the Hippocratic treatise *de victu*, I, 15, it is made plain that the pain inflicted by doctors is for the eventual good of the patient: κεντεόμενοι δὲ καὶ τεμνόμενοι τὰ σαθρὰ ὑπὸ τῶν ἰατρῶν ὑγιάζονται. On the evidence of all these passages it is surely legitimate to conclude that the paradox that doctors hurt to cure was well known in the fifth and fourth centuries and later,[1] and that a more or less standardized expression of this paradox, of which the verbs τέμνειν and καίειν and possibly one or two others of the same class were an essential part, was widely known.[2] Whether or not Heraclitus himself was the author of this standardized version (for at least twenty years must have intervened between Heraclitus' death and the writing of the *Agamemnon*) is a matter for speculation: it seems more probable than not that he was, for the quotation from him consists in little more than a simple statement of the paradox, which was in itself sufficient to illustrate the point (that in many cases apparent opposites simultaneously characterize the same object) which he was presumably trying to make. The fact that all later versions of the paradox, except two which probably depend on a single unreliable source, imply no criticism whatsoever of doctors makes it highly probable that Bywater's text (which is very nearly the manuscript text) is correct as against Diels; the evidence of the *de victu* passage, which may be a reminiscence of this very saying by Heraclitus, is particularly strong.

The textual difficulties are not yet exhausted: the last seven words of Hippolytus' sentence require close examination. Almost all critics, including Diels, Reinhardt, Wilamowitz, Kranz and Gigon, have accepted Sauppe's slight change of the ms. ταῦτα into ταὐτά, presumably because this provides a basis for Hippolytus' introductory generalization that darkness and light, bad and good, are ἓν καὶ τὸ

[1] Among later instances cf. Philo *de Cherub.* 15 τὸν ἰατρὸν κενοῦν ἢ τέμνειν ἢ καίειν διεγνωκότα ἐπ' ὠφελείᾳ τοῦ νοσοῦντος....

[2] Perhaps, too, the fact that doctors receive a μισθός for their activities was mentioned in the standard version: so in the passage quoted from Xenophon and in the sixth letter, as well as in the fragment.

αὐτό. Such an explicit identification, in identical terms, was in fact made in another saying of Heraclitus quoted by Hippolytus a few lines later, fr. 60 ὁδὸς ἄνω κάτω μία καὶ ὡυτή. It is quite unnecessary to suppose that fr. 58 must have explicitly affirmed that good and bad (or particular good and bad things or activities) are ταὐτά. Then there is the positive objection that the words which follow—in the ms. reading, τὰ ἀγαθὰ καὶ τὰς νόσους—must specify the apparent opposites which are in reality 'the same'; τὰ ἀγαθὰ can stand (they achieve good, because they cure by these methods) but τὰς νόσους can scarcely be an object of ἐργαζόμενοι. Wilamowitz, *Hermes* 62 (1927) 278, avoids the necessity of a polar phrase after ταὐτά by emending somewhat drastically to τὰ καὶ αἱ νοῦσοι: this gives the meaning 'doing the same things as the diseases themselves'; but this is rather weak, for if Hippolytus is right what is required is a statement that doctors at the same time do evil (that is, cause suffering) *and* do good (that is, achieve a cure). Wilamowitz's version omits the last term, or leaves it to the imagination. In *VS*4 Diels accepted the last five words and translated: 'd.h. durch ihre Guttaten die Krankheiten nur aufheben'. This does not accord well with the reading μηδὲν ἄξιοι accepted by Diels, but gives a possible sense otherwise, although it does not succeed in making an adequate translation of the Greek: this last is probably impossible without emendation. In any case most authorities, including Diels, have taken the last five words (or at any rate the last three) to be an addition or gloss, either by Hippolytus himself or his source; this does not alter the fact that they should give a grammatically satisfactory explanation of ταὐτά or some similar word. D. S. Robertson suggests that everything after λαμβάνειν, including ταῦτα (or ταὐτὰ) ἐργαζόμενοι, is a later expansion. This is attractive; but the obscurity of τὰ ἀγαθὰ κτλ. is only explicable if it is a gloss on ταῦτα or ταὐτά, which would therefore have to belong to the original. As a straightforward explanation from one hand, παρὰ . . . νόσους would be extraordinarily involved as well as partially unnecessary. Of the other emendations mentioned in the apparatus Petersen's is the only one which is at all plausible, and it gives a very weak sense. I tentatively suggest modifying Wilamowitz's version so as to keep both terms, good and bad, identified in ταὐτά: τὰ ἀγαθὰ καὶ τὰ αἱ νόσοι. But by preference I adhere, with Bywater and Gomperz, to the ms. reading ταῦτα (the manuscript, it has been argued above, is very

nearly correct for the central part of the quotation); for if the original word was ταὐτά, then some sort of elucidation must have been given by Heraclitus himself, and τὰ ἀγαθὰ καὶ τὰς νόσους is more likely to be a distortion of this than a gloss added by a later transmitter. Yet these words look very like a gloss; therefore probably Heraclitus did not give any such elucidation (though such an elucidation could have been lost), and therefore did not write ταὐτά. Why should not ταῦτα simply refer to τέμνοντες καὶ καίοντες, and ἐργαζόμενοι supply the grounds on which the fee is demanded? (the latter verb could be concessive: so Göbel, *Die vorsokratische Philosophie* 62f., whose interpretation resembles the present one). It may be that Heraclitus did explain the significance that he attached to this instance of the method of doctors; but if so it is probable that his explanation was clearer than any phrase which can have given rise to the last five words, though the modification of Wilamowitz's emendation suggested above cannot be left entirely out of account. In fact, though, the significance of the instance is self-apparent, and in the later paraphrases which have already been cited the paradox is usually allowed to speak for itself. If the saying was originally connected with other statements of the relativity of apparent opposition it would require no special explanation. Doctors, as was well known, employed painful methods like cutting and cauterization; by these means they often achieved a cure; therefore what is *prima facie* bad is seen, in the long run, to be good; therefore bad and good are in such cases 'the same'. Hippolytus, or his source, thought that the matter was not sufficiently clear and decided to expand ταῦτα or ταὐτά—for either word could have been accepted at any stage in the transmission.[1]

There remains the problem whether Heraclitus explicitly stated that good and bad were the same, or whether this was a deduction made later from his general assertions of the real coincidence of contraries. Such a deduction is, of course, a legitimate one providing one remembers that Heraclitus was concerned to demonstrate an *underlying* connexion or identity, and that 'identity' for him did not have the rigid connotation of one-ness and inseparability which it has had since Aristotle. Certainly Heraclitus recognized a practical

[1] Gomperz's addition ἐκβάλλοντες is unsatisfactory because 'doing good' and 'casting out the diseases' are complementary in sense, while any explanation must have mentioned the bad aspect as well as the good.

difference between good and bad, and to argue that if good and bad are 'the same' there is no point in listening to Heraclitus' message and following the Logos, since the nature of behaviour is indifferent, is to show a grave lack of historical sense as well as an over-literal interpretation of Heraclitus' language. As a matter of fact no explicit affirmation that 'good and bad are the same' has survived in the extant fragments. Yet Aristotle directly attributes this sentiment to Heraclitus on more than one occasion, and is followed in this by Simplicius. Hippolytus, too, in the preamble to frr. 57 and 58 quoted in the text above, declares that Heraclitus held the two things to be one and the same. But Hippolytus might merely have been drawing his own conclusions from the sayings which he was about to quote; he might, too, have been indirectly influenced by Aristotle's clear assertions that Heraclitus made this identification. It is apparent, moreover, when one considers the flimsy basis of objective fact which underlay many of Aristotle's judgements on Presocratic thinkers, that Aristotle also was capable of attributing to Heraclitus as an explicit identification a conclusion which he himself had drawn, not entirely illegitimately perhaps, from the consideration of other assertions of the coincidence of opposites. The two passages in which Aristotle assigned this identification to Heraclitus are as follows:

Top. Θ 5, 155b30 διὸ καὶ οἱ κομίζοντες ἀλλοτρίας δόξας, οἷον ἀγαθὸν καὶ κακὸν εἶναι ταὐτόν, καθάπερ Ἡράκλειτός φησι, οὐ διδόασι μὴ παρεῖναι ἅμα τῷ αὐτῷ τἀναντία, οὐχ ὡς οὐ δοκοῦν αὐτοῖς τοῦτο, ἀλλ' ὅτι καθ' Ἡράκλειτον οὕτως λεκτέον.

Phys. A 2, 185b19 (referring to the Eleatics) ἀλλὰ μὴν εἰ τῷ λόγῳ ἓν τὰ ὄντα πάντα ὡς λώπιον καὶ ἱμάτιον, τὸν Ἡρακλείτου λόγον συμβαίνει λέγειν αὐτοῖς· ταὐτὸν γὰρ ἔσται ἀγαθῷ καὶ κακῷ εἶναι καὶ ἀγαθῷ καὶ μὴ ἀγαθῷ εἶναι, ὥστε ταὐτὸν ἔσται ἀγαθὸν καὶ οὐκ ἀγαθόν, καὶ ἄνθρωπος καὶ ἵππος, καὶ οὐ περὶ τοῦ ἓν εἶναι ὁ λόγος ἔσται ἀλλὰ περὶ τοῦ μηδέν, καὶ τὸ τοιῳδὶ εἶναι καὶ τοσῳδὶ ταὐτόν.

The charges that Heraclitus denied the law of contradiction, repeated also at *Met.* Γ 7, 1012a24, are relevant to the imprecise expression, but not the real intention, of Heraclitus' assertions of the coincidence of opposites; and it is of interest that Aristotle himself admitted, at *Met.* Γ 3, 1005b23, that there was some doubt whether Heraclitus should be interpreted as denying the law of contradiction. It can be seen from the quotations above that the choice of good and

bad as a typical pair of opposites may have been made by Aristotle himself, as being a particularly extreme and therefore particularly absurd example; phrases like 'as Heraclitus says' in the *Topica* passage do not necessarily mean that an exact quotation or even a particularly accurate paraphrase is involved. W. D. Ross, *Aristotle, Physics* 462, suggests that frr. 58–62, for example, underlie this criticism by Aristotle;[1] we may conclude that they alone could have given rise to the assertion that Heraclitus declared good and bad to be one, though this cannot be proved. On the other hand, one of the two passages of Simplicius' commentary on the *Physics* in which the identification of good and bad is mentioned suggests that Simplicius, at any rate, knew of no actual saying by Heraclitus to this effect: *in Phys.* p. 50, 10 Diels (cf. also *ibid.* p. 82, 20) τοιαῦται γὰρ αἱ θέσεις, ὡς Ἡράκλειτος ἐδόκει, τὸ ἀγαθὸν καὶ τὸ κακὸν εἰς ταὐτὸν λέγων συνιέναι δίκην τόξου καὶ λύρας. Simplicius went on to say that Heraclitus 'demonstrated the harmonious mixture of the opposites in the process of becoming', and to quote Plato *Sophist* 242E on the difference between Empedocles and Heraclitus. It is quite clear from this, and from the quotation of the phrase 'in the manner of bow and lyre' from fr. 51, that for Simplicius the identification of good and bad was not specifically asserted by Heraclitus but was implicit in the general assertion of the well-known fr. 51 (which lies behind the Platonic passage too) that 'that which tends apart also tends together; there is a *harmonia* stretching in both directions, as there is in a bow and a lyre'. If Simplicius had known of a positive assertion of the identity of good and bad he would have quoted it, and not a mere generalization from which that identity might be deduced. Of course, the fact that Simplicius did not know of such an assertion does not prove that no such assertion was ever made by Heraclitus; it does increase a pre-existing doubt.

[1] He added that the whole doctrine of flux, in Aristotle's view, probably involved the denial of the law of contradiction: but Cherniss, 86 n. 363, rightly pointed out that at, for example, *Met.* Γ 8, 1012b26 Aristotle held that if everything is in motion *nothing* (not everything) is true; while shortly before, at Γ 7, 1012a24, he had said that Heraclitus' argument that things are and are not made everything true. The *Physics* passage leads to the same conclusion that all things are true (though this results in their being μηδέν rather than ἕν); therefore in both these cases Aristotle's criticisms of Heraclitus are based upon his doctrine of the relativity of opposites and not upon that of universal change.

To return in conclusion to fr. 58: this fragment, pared of probable additions, simply adduces an evident and picturesque instance of a process which can be truthfully described at one and the same time in quite opposed ways, according as the observer takes a long or a short view. These descriptions could be 'harmful-beneficial' or 'painful-pleasant': the simple opposition 'good-bad' *could* be applied here, as it could be applied to the instances in frr. 61, 13, 9: it has been so applied by whoever added the words τὰ ἀγαθὰ καὶ τὰς νόσους, and Hippolytus took this instance to be a useful example of the identification by Heraclitus of good and bad. That Heraclitus believed that from one point of view (and the most sublime one) all differentiations, including moral ones, involved error, is not in doubt; one only has to refer to the words of fr. 102, 'To god all things are beautiful and good and just; but men have supposed some things to be unjust, others just'. But his normal method, where only the human standard is in question, was to rely on concrete instances of the coincidence, in certain circumstances, of various pairs of opposites. In other circumstances the coincidence of a particular pair might not be so marked, or might even be entirely absent; that good and bad were not always the same, for example, is shown by the very fact that Heraclitus saw fit to rebuke his fellow-men for not seeing the truth in the shape of the Logos. Thus the likelihood is that he never made the general assertion of such an identity attributed to him by Aristotle unless it was in terms like those of fr. 102. Aristotle, here as elsewhere, drew his own conclusions, while Hippolytus chose fr. 58 as an apt instance of a doctrine which, after Aristotle, was habitually attributed to Heraclitus.

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(50B)

Hippolytus *Refutatio* IX, 10, 4 (p. 243 Wendland) (post fr. 58) καὶ εὐθὺ δέ, φησί, καὶ στρεβλὸν τὸ αὐτό ἐστι. **γραφέων,**[1] φησίν, **ὁδὸς εὐθεῖα καὶ σκολιὴ** (ἡ τοῦ ὀργάνου τοῦ καλουμένου κοχλίου ἐν τῷ γναφείῳ[2] περιστροφὴ εὐθεῖα καὶ σκολιή· ἄνω γὰρ ὁμοῦ καὶ κύκλῳ περιέρχεται[3])· **μία ἐστί,** φησί, **καὶ ἡ αὐτή** (seq. fr. 60).

1 γραφίων cod.; γράφων Tannery; γραφείῳ Mullach; γναφέων Duncker, Bywater, Zeller; γναφείῳ Bernays, Diels, Kranz. 2 γραφείω cod.; γναφείῳ Bernays, omnes recentiores. 3 περιέχεται cod.; περιέλκεται Mullach; περιέρχεται Roeper, Diels, Kranz.

(*After fr.* 58) *Straight too, he says, and twisted are the same.* Of letters [*or*, of writers], *he says*, the way is straight and crooked (*the turning of the instrument called the screw in the fuller's shop is straight and crooked; for it moves upwards and in a circle together*): it is one, *he says*, and the same (*fr.* 60 *follows*).

The text has given rise to a great deal of disagreement, although Bernays' emendations were accepted by Diels and now seem to have gained general approval. The second γναφείῳ must, I think, be correct: the screw-press was likely enough to be found in the fuller's shop,[1] where it was used for the final pressing of the cloth. Other places where it was commonly employed were the olive-press and the wine-press, no word for which could give rise to the ms. γραφείω: it is also obvious that no word with the root γραφ- could be connected with the κοχλίας.

On the other hand, the emendation of γραφέων to the first supposed instance of γναφείῳ is impossible; not so much because of the omission of ἐν (which is itself difficult), or the vagueness of the phrase 'in the fuller's shop' if the reference is to a special machine in that shop, but because the screw-press, of whatever kind, was not invented in Heraclitus' time or indeed until the time of Archimedes at the earliest; and no other conceivable part of the fuller's shop

[1] Such a press is portrayed in a wall-painting in a fuller's shop at Pompeii; see Mau *Pompeji in Leben u. Kunst*[2] (Leipzig, 1900) 388, fig. 229.

except the screw-press (and particularly the screw itself) could be relevant as an example of straight and crooked motions in the same object. Zeller, admittedly, and at first Diels (see his discussion of the fragment in *Herakleitos*², to which he referred in all editions of *VS*, as did Kranz in DK), thought not of the screw-press but of the 'Krempelwalze', that is, a cylinder with spikes or combs on its outer surface which was rolled along the cloth to card it. Unfortunately, there seems to be no evidence that cylindrical carding combs were used in the Greek fuller's shop—normally these combs were flat, and were rubbed along the surface of the cloth, held in the hand. Hesychius gives κνάφου δίκην against κναφεῖον, but, as Diels noted, this is by no means decisive, and in any case says nothing about cylinders. Finally, it is significant that whoever added the explanation in parentheses, whether Hippolytus or a predecessor, definitely took γναφεῖον to refer to the κοχλίας (which here must be the screw-press) and not to any kind of roller. Nor did any activity of fullers themselves obviously exemplify a 'straight and crooked way'; D. S. Robertson suggests that some movement of their arm is meant, but though γναφέων is a simple restoration this does not seem quite adequate; for one thing no such movement can be imagined.[1]

The evidence that the screw in general and the screw-press in particular was not known to Heraclitus is well summed up by A. G. Drachmann in his article in *RE*, Supplb. VI, s.v. Schraube. The invention of the κοχλίας is attributed to Archimedes by Moschio *ap.* Athenaeum 5, 208 F (cf. Strabo 17, 807 and 819); Diodorus I, 34; V, 37. These authorities tell how Archimedes used his κοχλίας for raising water for irrigation purposes in Egypt; Moschio adds that by means of a screw-windlass the inventor by himself shifted the ship of Hiero. Thus what Archimedes invented was not simply an applied form of the screw, it was the screw itself—as is unmistakably suggested by the use of the unqualified word κοχλίας in the above passages. It was the so-called 'endless' screw, which turns on a gear-

[1] κοχλίας is used for a simple roller by Bito, p. 47, 4 Wescher; but this is a very loose usage, and not one likely to be known by a layman like our glossator. κοχλίας, originally meaning a snail with a spiral shell, came to be used for any kind of spiral, but especially the mechanical screw; it is extraordinary if it was early used to describe a shape that is not spiral in some way.

wheel and not inside a nut or female screw. The female screw was not invented until later, and Hero described a method for making it in terms which show that it was something new in his time: *Mech.* III, 15, 19, 21.[1] The key passage on the use of screw-presses, in which the male screw must work in a fixed female screw, is Pliny *N.H.* XVIII, 317 (translation after Drachmann, 'Ancient Oil Mills and Presses', *Danske Vidensk. Selskab. Archaeol. Meddel.* I, 1 (1932) 50ff.): 'Our forefathers drew them [sc. the press-beams] down by means of ropes and leather thongs and handspikes. Within the last 100 years there have come into use presses invented in Greece, spars with furrows running round them in a spiral, some people putting handles on the spar, others making the spar lift up chests of stones, which is very much praised. Within the last 22 years it has been discovered how to press with shorter presses and smaller press-houses, with a shorter spar straight in the middle, bearing down with full weight from above on the lid laid on the grapes....' The three stages noted here are the windlass-and-lever press; the screw-and-lever press; and the direct-screw press. According to Pliny, then, the first use of the screw in Italian presses was *c.* 25 B.C., and the invention of the idea in Greece cannot have long preceded this: the direct-screw press (as in the Pompeii wall-painting mentioned above, p. 97 n. 1) was first used about A.D. 50. This type of press necessitated a proper female screw, and is the only type which could be described by the single word κοχλίας: for in a lever press the screw was not an essential or indeed very noticeable part of the machine. (Naturally the fuller's press is of the same type as the wine-presses described by Pliny. Drachmann 85 remarks that the direct screw appears to have been used in antiquity only for oil, wine, and fuller's presses.)

Tannery, *Pour l'Histoire de la Science Hellène*² 204, pointed out in a single line that no screw mechanism was known before Archimedes; it is extraordinary that this point has been so often neglected. Tannery's own explanation of the passage, however, is far from

[1] The first crude attempt at making a standing part through which the screw could turn was perhaps made by the doctor Andreas, a contemporary of Archimedes who died *c.* 217 B.C.; he invented a bone-setting clamp which was worked by a direct screw: see Oribasius *Coll. Med.* 49, 4, 55, and a similar surgical device of later date, *Real Mus. Borbonico* 14 (Naples, 1852) pl. 36, figs. 1–2. In these cases a comparatively small force was applied; this type of makeshift female screw would not be strong enough to operate a heavy press.

plausible: he thought that Heraclitus had simply said ὁδὸς εὐθεῖα καὶ σκολιὴ μία ἐστὶ καὶ ἡ αὐτή, and that some copyist wrote γράφων or perhaps even γραφέων (most unlikely), meaning 'writing as follows', as a variation of φησί and to show that Heraclitus' actual words are to follow: φησί somehow was left in the text as well. The parentheses contain two stages of gloss or commentary, both subsequent to the original copyist who wrote γράφων or γραφέων. The first interpolator misinterpreted γραφέων as being the genitive plural of γραφεύς, and introduced γραφείῳ to account for this, thinking that Heraclitus was thinking of the motion of a pencil; the second interpolator could make nothing of ἐν τῷ γραφείῳ κτλ. and so added his own explanation, ἡ τοῦ ὀργάνου τοῦ καλουμένου κοχλίου: whether or not he read γναφείῳ he certainly thought that the screw was meant. This whole account with its three separate stages of confusion is too complex to be readily acceptable, although it contains useful suggestions; but Tannery's interpretation of the words he assigns to Heraclitus as referring to the physical exchanges of matter, the straight path being, for example, the direct change fire–earth, the crooked path being the indirect change into earth by the intermediate stage of water, is quite untenable; see on the next fragment, where it is shown that even the interpretation of the much simpler 'way up and down' in terms of physical exchanges is probably wrong.

It is quite unlike Heraclitus to have said that 'the straight and crooked way is the same', with purely general application: in other fragments he either limits the identification of particular opposites to a special instance, or, as in frr. 67, 88, he gives a list of several opposites and then adds a reason for considering them to be really the same. It is true that in fr. 60 he appears to have asserted simply that ὁδὸς ἄνω κάτω is one and the same; but here the specification of ὁδός limits the identification of ἄνω and κάτω to one particular instance or group of instances: the path (straight line) between a higher and a lower point (or a nearer and a farther one) is the same, whichever way it is traversed. In the present fragment, on the other hand, the crooked path and the straight path must follow a different course; they are the same in so far as they are followed concurrently by the same thing. In short, Heraclitus must here have qualified ὁδός in some way, and presumably the word γραφέων in our ms. represents this qualification. It has been seen that emendation to

forms of γναφ- are out of the question; Mullach's γραφείῳ may be considered—but this word is not otherwise found before the fourth century B.C. Is the ms. reading quite impossible? γραφέων could be the genitive plural of γραφεύς: but again, this word does not occur before the fourth century with the meaning 'writer', which is the only meaning which would give a possible sense here. In occurrences before Xenophon the word only means 'painter', but the absence of extant examples of the sense 'writer' could be accidental. The 'straight and crooked way' would thus be the line as a whole and the individual letters (see p. 102): H. Lloyd-Jones ingeniously suggests that Boustrophedon inscriptions are meant, but the instance would then be too specialized for the general term γραφέων. Alternatively, γραφέων might be the genitive plural of the neuter noun γράφος. Only two instances of this noun are mentioned in LSJ; four others should be added. All occurrences are in inscriptions from the Peloponnese. Five are to be found in Collitz *Samml. d. griech. Dialekt-Inschriften*, nos. 1151, 19; 1156, 2; 1156, 3; 1157, 6; 1149, 7. These are all Elean inscriptions, most of them early (sixth century B.C.), found at Olympia. In addition there is a late fourth-century B.C. inscription relating to Arcadian Orchomenos, *IG* 5(2), 343. H. van Herwerden, *Lex. Gr. Suppl.*[2] 323, s.v. γράφος, gives the general meaning 'lex' in citing these instances; but in three cases at any rate the word, in the plural, means 'writings' or 'letters', and refers to the material record of the decree and not to its content. The clearest case is the last of the Elean inscriptions noted above (= *SIG* 9; Tod *Greek Historical Inscriptions* no. 5), the well-known record of an alliance between the Eleans and Heraeans in the sixth century B.C. At the end of the decree comes a curse against anyone who damages the inscription: Αἰ δέ τιρ τὰ γράφεα ταὶ καδαλέοιτο... ἐν τ' ἐπιάρωι κ' ἐνέχοιτο τῶι ταῦτ' ἐγραμένωι. Tod translates: 'And if anyone injure this writing...he shall be liable to the sacred fine herein written.' There can be no doubt that γράφεα here refers to the physical record of the decree, and does not mean 'lex'; it might mean 'letters', Attic γράμματα. The same sense is necessary in another archaic Elean decree, no. 1151, 19 above, where the formula is very similar. So too in the Arcadian inscription, of which lines 18–19 read: γράφεα γράψανσας καθ[έσ]θ[αι]. The general sense is clear: 'Having written down the writings, they are to put them in safety'; γράφεα here must surely have the same sense as γραψ- in

the verb, and refer to the actual record in letters engraved on stone (though cf. γραφὴν γράφεσθαι in Attic, where γραφή means 'indictment'). In the other instances γράφος does mean 'law' or 'decree', as in 1157, 5 above: κὰ(τ) τὸ γράφος. Now the difficulty of accepting γραφέων as the genitive plural of γράφος, in the fragment, is obviously that this word is only found in Peloponnesian inscriptions and looks like being a Peloponnesian dialect-form. But the fact is that all the early instances of it come from Olympia, where as it happens a great number of archaic bronze tablets were found; no such find of early inscriptions has been made anywhere in Ionia, and it is perfectly possible that the word was used also in Ionic; from its form there is no reason to suppose that it is particularly Peloponnesian. The absence of Ionian evidence does not seem a sufficient reason for rejecting it from the fragment of Heraclitus.

With the meaning 'letters' or 'things written' γραφέων gives an excellent sense: the pen proceeds in a mean course along a straight line, but on the way it makes many convolutions in the construction of the separate letters; thus the 'way' or 'path' of letters can be said to be both straight and crooked.[1] This is almost identical, indeed, with the sense given if γραφέων means 'of writers': in the one case the object, in the other the agent is specified; that is all. Neither interpretation is free from difficulty, but each is preferable to any interpretation possible with any other reading, and I believe that the manuscript reading is certainly correct. In this case what Heraclitus wrote was utterly misunderstood by some later transmitter, who instead of γραφέων understood γναφέων or γναφείῳ. In the parentheses there seems to be little doubt that the fuller's screw is in question; but it seems unnecessary to postulate two separate interpolators, as Tannery does. Mullach ad fr. seemed to think that the instance of writing was understood by the interpolator, who added on his own account the different instance from the fuller's press; this is again improbable. Thus all we can say is that at some time

[1] This is somewhat similar to what Mullach meant when, in explanation of his reading γραφείῳ, he wrote: 'Nam stili circumversio recta et curva est, siquidem a scribente simul sursum atque in orbem flectitur.' Tannery, *loc. cit.*, thinks that the interpolator (of γραφείω in the ms.; not Heraclitus) had a different idea in his mind, of twirling a pencil in one's fingers at the same time as drawing it along the line, in order to keep the point sharp. This is very far-fetched.

after the invention of the screw-press, therefore after *c.* 50 B.C. at the earliest, and before the writing of the Paris ms. of Hippolytus, this interpolation was made. The probability is, one might suppose, that Hippolytus himself was responsible for it. As for the retention in our ms. of γραφέων, which we take to be the original and correct reading, either the interpolator's version of Heraclitus' saying already contained the corruption γναφέων or γναφείῳ as first word, and his interpolation was later incorporated in a version which also had access to the correct reading; or the interpolator simply ignored γραφέων and gave his own interpretation of what Heraclitus had in mind.

A dubious corroboration of Heraclitus' identification of straight and crooked occurs in Apuleius' version of the pseudo-Aristotelian *de mundo*, 21 (p. 157 Thomas) 'namque [sc. natura] uvidis arida et glacialibus flammida, velocibus pigra, *directis obliqua* confudit unumque ex omnibus et ex uno omnia iuxta Heraclitum constituit'. This passage follows fr. 10, but the Greek text lacks the second reference to Heraclitus, which is probably due to Apuleius. Before the quotation of that fragment there occurred, not attributed to Heraclitus, a number of practical instances of the way in which Nature achieves agreement out of opposites. These instances may be derived from a follower of Heraclitus, for some of them also occur in *de victu* I, 12–24, the author of which uses some unmistakably Heraclitean material. In both places (*de mundo* 5, 396b 17; *de victu* I, 23) the instance of γραμματική occurs, but in each case the point exemplified is not the presence of both straight and crooked motions in the act of writing but the fact that a single τέχνη depends on the combination of opposites (in this case, opposite shapes).[1] This gives no help in determining further what particular case Heraclitus had in mind when he said that straight and crooked were the same. That these were commonly thought of as obvious opposites is indicated by their presence (εὐθὺ καὶ καμπύλον) in the Pythagorean table of ten basic oppositions given by Aristotle at *Met.* A 5, 986a 22ff.

It could reasonably be doubted whether μία ἐστὶ καὶ ἡ αὐτή really belongs to Heraclitus, or whether these words were supplied by Hippolytus from fr. 60, which he quotes immediately afterwards;

[1] At *de victu* I, 14 γναφέες are mentioned; not for their use of the press or the *Krempelwalze*, but because 'by ill-treating they make stronger'.

there the Ionic form ὡυτή suggests that the whole phrase 'one and the same' is original, and indeed the sentence would be incomplete without it. In fr. 59, however, the only Ionic form is σκολιή, and the statement γραφέων ὁδὸς εὐθεῖα καὶ σκολιή [sc. ἐστι] would be complete in itself. The fact that Hippolytus interpolated φησί in the doubtful phrase is no indication of authenticity: he frequently uses φησί to introduce obvious paraphrases, as in his introductory paraphrase here: καὶ εὐθὺ δέ, φησί, καὶ στρεβλὸν... (cf. also Reinhardt *Hermes* 77 (1942) 22 n. 3). Since the doubtful phrase is formally assigned to Heraclitus, and there is no special reason for rejecting it, I have retained it in the text; I prefer, however, to punctuate strongly after σκολιή and make the first clause complete in itself. The parallelism in form between frr. 59 and 60 as they stand in Hippolytus has led to the assumption that the two ὁδοί are 'the same' in the same way; but there is a slight difference, as will be shown under fr. 60. In the case of fr. 59 there can be no doubt that the argument is relative; the saying presents yet another example of how, in a special case, what are conventionally counted as irreconcilable opposites are found to inhere at one and the same moment in the same activity. The writing instrument follows an actual course which is twisted and irregular; its mean course, however, is a straight line. Even if the reading γναφέων or γναφείῳ were right and the reference were to a carding-roller or even a screw-press, the import of the fragment would remain roughly the same. The example may not be thought to provide very strong support for the theory of the underlying unity of opposites; but to Heraclitus and his contemporaries the observation was fresher than it is to us.

60

(69 B)

Hippolytus *Refutatio* IX, 10, 4 (p. 243 Wendland) (post fr. 59) καὶ τὸ ἄνω καὶ τὸ κάτω ἕν ἐστι καὶ τὸ αὐτό· **ὁδὸς ἄνω κάτω μία καὶ ὡυτή**[1] (seq. fr. 61).

1 ωυτή cod.

(*After fr.* 59) *And the up and the down is one and the same thing:* The way up and down is one and the same (*fr.* 61 *follows*).

That the words printed in heavy type are intended as a quotation from Heraclitus is shown by the Ionic form ὡυτή, as well as by the lack of ἐστί and the succinct expression in general. The saying was attributed to Heraclitus by many different post-Aristotelian sources; Hippolytus gives what appears to be the most original form, and quotes this saying among others of which the evident authenticity shows that he had access to a reliable collection of extracts from Heraclitus. Most modern scholars have accepted the view that the upward and downward paths referred to here are the paths which matter follows in the change of the cosmos from fire to sea to earth (downward) and from earth to sea to fire (upward). This view depends upon the interpretation given at Diog. L. IX, 8–9, a passage derived from Theophrastus. Theophrastus was evidently convinced that fr. 31 (describing the 'turnings' of fire) included the process of cosmogony; but that Heraclitus cannot have envisaged or described such a process is adequately shown by fr. 30 alone, see p. 311. Those who were aware of this difficulty turned, for the most part, to the view that the 'ways' or 'paths' in this fragment refer to the 'turnings' or 'exchanges' of fire for other forms of matter—a process in which Heraclitus did in fact believe. That no more general application of the words of the fragment was sought was due, presumably, to an assumption like that expressed by Gigon 67, that 'the nature and frequency of the citation [sc. of fr. 60] shows that it stood in an important physical context'. But Karl Reinhardt, whose interpretation of this fragment I for the most part accept, has pointed out (*Hermes* 77 (1942) 16ff.) that no [illegible]

were offered by ancient critics, of which three were not strictly 'physical' at all.

(1) Tertullian *adv. Marcionem* II, 28 'Quid enim ait Heraclitus ille tenebrosus? eadem via sursum et deorsum.'—Tertullian, perhaps not very seriously, takes this to imply that the same argument can be used in two different ways.

(2) Philo *de somn.* I, 24, 156 καὶ ὁδός τις ἥδ' ἐστὶν ἄνω καὶ κάτω τῶν ἀνθρωπείων πραγμάτων, ἀστάτοις καὶ ἀνιδρύτοις χρωμένη συντυχίαις.... Cf. *idem, de vit. Mos.* I, 6, 31. By Philo the way up and down is applied to the variability of human fortunes; Heraclitus is not mentioned by name, but the ὁδός occurs in the first passage, while the second has a possible reminiscence of fr. 52, τύχης...ἄνω καὶ κάτω τὰ ἀνθρώπεια πεττευούσης. Perhaps this interpretation derives from Plato *Philebus* 43A ...ὡς οἱ σοφοί φασιν· ἀεὶ γὰρ ἅπαντα ἄνω τε καὶ κάτω ῥεῖ (of changes of feeling); so also *ibid.* 43B. There is no mention of the ὁδός, but ῥεῖ could refer specifically to Heraclitus.

(3) The Neoplatonists, recalling perhaps Plato *Rep.* 517B τὴν τῆς ψυχῆς ἄνοδον, and *Gorg.* 493A μεταπίπτειν ἄνω κάτω (of the soul), evidently took the 'way up and down' to refer to the journeys of the soul. So Iamblichus *ap.* Stobaeum *Ecl.* I, 39 (I, 378 Wachsmuth) in explanation of Plotinus *Enn.* IV, 8 (see fr. 84): 'Ηράκλειτος...ὁδόν τε ἄνω καὶ κάτω διαπορεύεσθαι τὰς ψυχὰς ὑπείληφε....

(4) We know from Theophrastus *Phys. op.* fr. 1 that Theophrastus attributed to Heraclitus successive processes of world-becoming and world-destruction: ποιεῖ δὲ καὶ τάξιν τινὰ καὶ χρόνον ὡρισμένον τῆς τοῦ κόσμου μεταβολῆς κατά τινα εἱμαρμένην ἀνάγκην. But nothing is said there which confirms that *this* μεταβολή involved a ὁδὸς ἄνω κάτω. Here we must scrutinise Diog. L. IX, 8–9 (part of Diogenes' detailed, Theophrastean account), which is printed on p. 328. It is hard to determine how far καὶ τὴν μεταβολὴν ὁδὸν ἄνω κάτω, τόν τε κόσμον γίνεσθαι κατ' αὐτήν refers to cosmogonical, and how far to cosmological changes. What precedes these words (cf. pp. 328, 24) certainly refers to cosmogony and ecpyrosis; while γίνεσθαι δὲ ἀναθυμιάσεις κτλ. (p. 270f.) certainly describes cosmological-meteorological processes. The answer is, I think, that the kind of change which leads to γένεσις continues in the world of our experience. In other words, τόν τε κόσμον γίνεσθαι κατ' αὐτήν (sc. ὁδὸν ἄνω κάτω, rather than μεταβολήν) applies to the cosmological continuation of the cosmogonical process: πυκνούμενον γὰρ τὸ πῦρ ἐξυγραίνεσθαι κτλ., though it probably represents Theophrastus' extension of the application of fr. 31 to γένεσις and φθορά of the world, also describes the weather-process, and it is to this that 'the way up and down' should probably be attached. To recapitulate: the cosmos is continually changing even when it has come into being; and it is this process of change which underlies its cycles of destruction and becoming. It is physical change in general which seems to be called 'way up and down'; this physical change is involved in the cosmic cycle, but the 'way up and down' cannot itself be described as identical with this cycle. Further, just before the first mention in Diogenes of the 'way up and down' came the statement that 'of the opposites, the one leading to becoming is called war and strife, the one leading to ecpyrosis is called agreement and peace...'. Now it is strange if Theophrastus ascribed two different names to the process of world-becoming which he thought he found in Heraclitus, and called it both 'war and strife' and 'the way up and down'. But if he had interpreted 'the way up and down' as a description of general cosmological change, this would account for the popularity of this interpretation (= (5) below) with the doxographical sources. The same kind of material alteration but on a much larger scale was involved in the cosmic processes of becoming and passing away into fire; the ὁδοί were only accidentally involved in these large-scale processes, to which Theophrastus attached the terms (doubtless used by Heraclitus to express something entirely different) 'war and strife' and 'agreement and peace'. If this is so, then interpretation (4) virtually disappears and Theophrastus adhered to

(5), the commonest ancient interpretation of fr. 60, according to which the 'way up and down' represents the cosmological changes of matter between fire, water and earth, as in fr. 31. So Cleomedes *de motu circ. corp.* I, 11 (p. 112 Ziegler) (after Posidonius according to Reinhardt, *Poseidonios* 200; *Hermes* 77 (1942) 17) ... ἐν μέρει καὶ αὐτὴ [sc. ἡ γῆ] ἀντιλαμβάνουσά τινα ἔκ τε ἀέρος καὶ ἐξ οὐρανοῦ. ὁδὸς γὰρ ἄνω κάτω, φησὶν ὁ 'Ηράκλειτος, δι' ὅλης οὐσίας τρέπεσθαι καὶ μεταβάλλειν πεφυκυίας κτλ.; Maximus Tyr. *Or.* 41, 4 μεταβολὴν ὁρᾷς σωμάτων καὶ γενέσεως, ἀλλαγὴν ὁδῶν ἄνω καὶ κάτω κατὰ τὸν 'Ηράκλειτον (cf. 10, 5); Philo *de aet. mundi* 21, 109 ...τὰ στοιχεῖα τοῦ κόσμου ταῖς εἰς ἄλληλα μεταβολαῖς...δολιχεύοντα ἀεὶ καὶ τὴν αὐτὴν ὁδὸν ἄνω καὶ κάτω συνεχῶς ἀμείβοντα. Cf. also Cicero

N.D. 33, II, 84 (probably also from Posidonius, but not attributed specifically to Heraclitus); Marc. Aur. VI, 17. To these passages should be added another, of pre-Theophrastean date, in which the ὁδός is not actually mentioned: *de victu* I, 5 (this statement is the opening sentence of the first of the chapters in which reworked Heraclitean material is found) Χωρεῖ δὲ πάντα καὶ θεῖα καὶ ἀνθρώπινα ἄνω καὶ κάτω ἀμειβόμενα. Here χωρεῖ (a reminiscence of the Platonic phrase at *Crat.* 402A?—On the question of the date of *de victu*, see p. 27; it probably belongs to the later fourth century) may suggest a ὁδός: but no more may be implied by ἄνω καὶ κάτω than in the expressions ἄνω καὶ κάτω φεύγειν (Aristophanes *Acharn.* 21); ἄ. τε καὶ κ. κυκᾶν (*idem*, *Knights* 866); ἄ. κ. συγχεῖν (Euripides *Bacchae* 349). No direct reference to fr. 60 need be intended.

Gigon, pp. 67 and 103, objected both to the cosmogonical and the cosmological interpretations (corresponding to (4) and (5) above) on the grounds that neither the scheme in Diogenes (fire-water-earth-water-'the rest') nor that in fr. 31 itself (fire-sea-earth-sea-*prester*) presents 'ways up and down' (earth being the most downward extreme) which are really identical.[1] Gigon, therefore, considering that the fragment must have some kind of physical application, applied it to the changes soul-water-earth-water-soul in fr. 36, which he considered to show a more complete cycle than fr. 31. This psychological interpretation of fr. 60 is of course entirely gratuitous; it rests on at least three false assumptions (that the fragment must have had a physical application; that 'the same' in Heraclitus implies absolute identity; and that some of the 'turnings' in fr. 31 are radically different from the others), and in addition does not at all accord with the most obvious interpretation of fr. 36 (p. 340f.). Gigon's observation that in any case 'ways up and down' are not 'the same' in the sense that the single ὁδός of fr. 59, viewed from two different aspects, is 'the same', is of greater interest: although it is not as original as he believed, for Zeller, ZN 854n. 1, said something very similar. G. Calogero, *Giornale Critica della Filosofia Italiana* 17 (1936) 213 n. 1, refers to Gigon's objection and explains that the apparent difficulty is due to the fact that Hippolytus, by juxtaposing

[1] That they do not exemplify for Gigon, if not the kind of 'identity' that he requires, at least equivalence (cf. G. Vlastos *CP* 42 (1947) 165 n. 98), is due to difficulties of his own making in the interpretation of the final, i.e. the fiery, stage of the transformations of matter.

two sayings of slightly different application, persuaded modern readers to take 'the same' in an identical sense in each case, just as Hippolytus himself appears to have thought that Heraclitus was identifying τὸ ἄνω with τὸ κάτω. It was noted on fr. 59 above that the words μία ἐστὶ καὶ ἡ αὐτή there might belong to Hippolytus (after the model of this fr. 60) rather than to Heraclitus. It was also pointed out that while in that fragment the limitation of the identification of opposites to one particular case, which one expects in these single instances, was provided by the word γραφέων, here it is implicit in the word ὁδός itself: it is not 'up' and 'down' as such which are being identified, but the ὁδός (in the singular, note) which connects these two extremes.

It was Reinhardt, *Hermes* 77 (1942) 16ff., who, after pointing out the diversity of the ancient interpretations of fr. 60 and the short-sightedness of modern critics in clinging to merely one or two of these interpretations, asked the question: 'Ist der "Weg" ein Bild, ein Gleichnis, oder eine Lehre?' Hippolytus quotes the saying *by itself*, as an example of the coincidence for Heraclitus of a particular pair of opposites. So too in the Heraclitizing late Hippocratic work *de nutrimento* 45 a similar statement stands by itself and not in relation to cosmological changes; it is conceivable that Marc. Aur. VI, 46 refers to the same saying, although the passage mentions neither Heraclitus nor the ὁδός. Certainly it is 'up' and 'down' in general, and not in reference to any particular process, which are identified together with other contraries in Lucian's parody of Heraclitus, *Vit. auct.* 14 ...καί ἐστι τωὐτὸ τέρψις ἀτερψίη, γνῶσις ἀγνωσίη, μέγα μικρόν, ἄνω κάτω. These parallels, inconclusive in themselves, added to the fact that Hippolytus (and so, presumably, his reliable source) quotes fr. 60 among other fragments which clearly have as their only purpose the assertion that in certain cases, and perhaps for differing reasons, apparent opposites are really connected as extremes of the same continuum, persuade me to accept Reinhardt's contention that the fragment is complete in itself as a relativistic statement devoid of general physical application.[1]

[1] One might add as an *argumentum ex silentio* against the physical interpretation of the 'way up and down' the fact that, if material change had been described in this way by Heraclitus, one would have expected Aristotle to have mentioned it at *Phys.* Θ 3, 253 b 9, where the reference is to the supporters of universal and perpetual motion—particularly, it may be assumed, the

Reinhardt continued his exposition of this fragment by pointing out that the words ἄνω κάτω can mean 'from and to' as well as 'up and down', and that if this is the case here then the relativistic and non-physical interpretation becomes the only acceptable one: for change from sky to sea to earth and back again, in fr. 31, would presumably be expressed in terms of 'up and down' rather than 'from and to'. Wilamowitz, in his commentary on the *Herakles*, v. 953, remarked that there ἄνω κάτω meant simply 'to and fro': so too in *Acharnians* 21, already cited, of people trying to dodge the crimson rope. To these and kindred examples I would add that Plato *Rep.* 613 B shows clearly that in the stadium τὰ κάτω referred to the starting-point, τὰ ἄνω to the turning-point. A similar sense is implicit in expressions like ἡ ἄνω ὁδός in Herodotus (v, 15; VII, 128), meaning 'the road away (from the coast), or inland'; or ἄνοδος meaning 'journey inland' in three out of the four instances in Herodotus (v, 50; v, 51; v, 54); or ἀνωτέρω meaning 'farther out to sea' (VIII, 130; VIII, 132) and κάτω meaning 'the seaward sector' of the mainland; that is, 'towards me' in the eyes of a maritime Greek) at I, 72; I, 177; VII, 217. Reinhardt also compares the words already quoted from *de victu* I, 5, ἄνω κάτω ἀμειβόμενα, with those which occur later in the same chapter: φοιτώντων ἐκείνων ὧδε τῶνδέ τε κεῖσε. He refers to the example of men sawing, quoted more than once in the same treatise, e.g. (in a particularly Heraclitizing context) at I, 16 τέκτονες πρίοντες ὁ μὲν ὠθεῖ ὁ δὲ ἕλκει·...πιεζόντων ἄνω ἕρπει, τὸ δὲ κάτω. But here the language is difficult; 'to and fro' for ἄνω...κάτω would suit the idea which follows, 'by doing less (i.e. by alternately letting the saw slide away) they do more', but on the other hand πιέζω means 'press down' if anything, and not merely 'push' or 'pull', as it would have to if only the horizontal motion of the saw were in question.

Heracliteans: πρὸς οὓς καίπερ οὐ διορίζοντας ποίαν κίνησιν λέγουσιν, ἢ πάσας, οὐ χαλεπὸν ἀπαντῆσαι. This statement is particularly surprising if Heraclitus himself had defined cosmic motion in terms of what might appear to be absolute 'up' and 'down'—in which Aristotle, in this part of the *Physics*, was especially interested. I derive this argument chiefly from Zeller, ZN 800 and 855 nn. In the latter discussion Zeller was particularly criticizing Lassalle, who (I, 128; 173 ff.) even interpreted the Way as referring to periodical changes between Being and Not-being. Not even πάντων δὲ παλίντροπός ἐστι κέλευθος in Parmenides fr. 6 means this; in any case κέλευθος here is a very far cry from the ὁδός of Heraclitus.

Yet even though it is perfectly possible that ὁδὸς ἄνω κάτω in the fragment means 'way from and to', it remains clear that ἄνω and κάτω could at any time bear their primary sense of 'up' and 'down'; and there is nothing to show that they do not do so here. Each critic is at liberty to place upon the words whichever of these two interpretations he thinks best, and in so doing he will not alter the primary import of the saying. What he will alter is the image by means of which this import is transmitted; for the evidence of the other extant fragments shows that in these short statements of the coincidence of a single pair of opposites Heraclitus preferred the practical, perceptible example to the abstract generalization. It is *a priori* more probable that, if the words of this fragment are susceptible of either a concrete or an abstract meaning, then the former is the one that Heraclitus had in mind. Now a concrete interpretation is possible whether the words ἄνω κάτω mean 'up and down' or 'from and to'. In the latter case one thinks of expressions like those quoted above from Herodotus; cf. Xenophon *Anab.* III, 1, 8, and kindred usages in LSJ s.v. ἄνω, II, 1 f. (On the other hand, at Plato *Rep.* 621 C ἡ ἄνω ὁδός means 'the upward road' (here, of the soul), not 'the road inland' or 'the road away'.) Presumably the 'inland' meaning depended on the fact that *up* river meant *away* from the coast.[1] It was only in Asia Minor that the rivers were large enough and the hinterland sufficiently unknown (to the Greeks) to make this kind of geographical direction a common one; thus it occurs most frequently in Herodotus, and in parts dealing with Asia Minor—so too in the *Anabasis*. Obviously, then, the Ionian Heraclitus might have adopted the same usage; but two considerations weigh against this possibility here: (1) since ἄνω and κάτω could also mean 'north' and 'south' it is unlikely that they would be used by themselves in a purely directional sense, for this would lead to ambiguity; (2) it may be the case (though there is not enough evidence for proof) that while ἡ ἄνω ὁδός could mean 'the inland road', ἡ ὁδὸς ἄνω or simply ὁδὸς ἄνω would tend to mean 'the upward road'. The double expression ἄνω κάτω, with its separate established sense of 'to and fro', complicates the final decision.

My own feeling is that the expression means, in this fragment, 'the road up and the road down' (to abandon, for the sake of clarity,

[1] Cf. Hdt. II, 155 ἀναπλέοντι ἀπὸ θαλάσσης ἄνω. The land, as well as its rivers, rises as one goes inland: cf. 'up country'.

the striking brevity of the original—'road up down, one and the same'). Calogero, *op. cit.* 212–15, has pointed out that there are many modern examples of the same hill being called opposite things by the people who live at opposite ends of it: to those who live on top it is 'the road down', to those at the bottom it is 'the road up'. Italian, for example, distinguishes the two aspects of 'slope', and so in the same city some parts of the same hill are named 'discesa', others 'salita', depending entirely on who did the naming. That there were such paths in the Ephesus of Heraclitus, connecting two separate communities and having two separate names, is probable enough (although Calogero's examples from late Ephesian inscriptions, 214 n. 1, are not good evidence). It may be that Heraclitus noticed the opposition in name and the identity of the thing named, and deduced from this that the opposition was a relative one—relative to observers in different circumstances.[1] More simply he may have noticed that any road up becomes a road down when one walks in the opposite direction. This fragment, then, is another statement of an instance in which apparent opposites are only relatively opposed.

[1] H. Gomperz, *Tessarakontaeteris Theophilou Borea* (Athens, 1940) 51, suggested that the image is of 'an upper path' and 'a lower path', running parallel to each other along a mountain-side. This presupposes an unusual usage of ἄνω and κάτω, and in addition it may be objected that such paths are not, even in Heraclitus' sense, 'the same'; also, for two separate paths or ways the singular would hardly have been used. Yet Gomperz was correct in trying to think of a concrete instance of ὁδός.

103

(70 B)

Porphyrius *Qu. Hom.* ad *Il.* XIV, 200 (p. 190 Schrader) τῆς δὲ ὅλης τοῦ κύκλου περιφερείας οὐκέτι [sc. ἔστι τὸ πόθεν ποῖ]· πᾶν γὰρ ὃ ἂν τις ἐπινοήσῃ σημεῖον ἀρχή τέ ἐστι καὶ πέρας· **ξυνὸν** γὰρ **ἀρχὴ καὶ πέρας ἐπὶ κύκλου** περιφερείας κατὰ τὸν Ἡράκλειτον.

But there is no such thing as a start and a finish of the whole circumference of a circle: for every point one can think of is a beginning and an end; for Beginning and end in a circle*'s circumference* are common *according to Heraclitus.*

Wilamowitz, *Hermes* 62 (1927) 276, held that the words ἐπὶ κύκλου περιφερείας could not have belonged to the quotation since Heraclitus was not interested in geometrical expressions, and terms like περιφέρεια would be unknown to him. The last statement must be true: the word is not otherwise known before Aristotle, and the fact that Porphyrius himself used it just before the quotation makes its explanatory use here quite understandable. On the other hand, the adjective περιφερής occurs in the possible imitation by Hermippus cited below. Bywater too thought it so obvious that ἐπὶ... περιφερείας were not by Heraclitus that he gave the fragment as ξυνὸν ἀρχὴ καὶ πέρας, without further comment. Gigon 100, however, followed by Walzer, observed that there is no linguistic objection against the words ἐπὶ κύκλου: indeed without some such qualification the quotation becomes a generalization so unsubstantiated and so vague as to be almost meaningless. Porphyrius is the source of one other fragment, 102, which gives the impression of having been to some extent remoulded in the language of a later age; in fr. 103 the form ξυνόν, if it has not been restored by a copyist, indicates that some attempt at exact quotation was made: but this can hardly be expected to have prevented Porphyrius from adding a word which seemed to him to clarify the sense.

A possible reminiscence of the fragment occurs in Hermippus fr. 4 Kock,... Ἐνιαυτός, ὢν δὲ περιφερὴς τελευτὴν οὐδεμίαν οὐδ' ἀρχὴν ἔχει. For other parallels one must turn to the medical literature.

A concrete example of the coincidence of beginning and end in a circle appears in *de victu* I, 19 πλοκεῖς ἄγοντες κύκλῳ πλέκουσιν· ἀπὸ τῆς ἀρχῆς ἐς τὴν ἀρχὴν τελευτῶσιν. τωὐτὸ περίοδος ἐν τῷ σώματι· ὁκόθεν ἄρχεται, ἐπὶ τοῦτο τελευτᾷ. A closer parallel with the geometrical statement of the fragment (accepting ἐπὶ κύκλου) occurs in another Hippocratic treatise, and one which has no special connexion with Heraclitus, *de loc. in hom.* 1 ἐμοὶ δοκεῖ ἀρχὴ μὲν οὖν οὐδεμία εἶναι τοῦ σώματος, ἀλλὰ πάντα ὁμοίως ἀρχὴ καὶ πάντα τελευτή· κύκλου γὰρ γραφέντος ἡ ἀρχὴ οὐχ εὑρέθη. In the much later *de nutrimento* (see p. 117), the author of which also attempts to reproduce the Heraclitean apophthegmatic style, but in an even more superficial way than the author of *de victu*, the identification of beginning and end in general is made: *de nutr.* 9 ἀρχὴ δὲ πάντων μία καὶ τελευτὴ πάντων μία καὶ ἡ αὐτὴ τελευτὴ καὶ ἀρχή. It is evident that the coincidence of beginning and end was a theme of especial interest to doctors; this was because one of the problems was to discover the ἀρχή of the body, so as to begin treatment there.[1] Whether or not Heraclitus' statement was the direct source of such Hippocratic assertions is impossible to determine; but one must remember that such a simple observation about one of the properties of the circle may well have been often made before Heraclitus; he may merely have restated it in a fresh context.

About the nature of this context Reinhardt, *Parmenides* 211 f., and Gigon 100f. held radically different views. Reinhardt formerly maintained that since the Eleatics had believed that Being, being one, had neither beginning nor end, and since (so he thought) Heraclitus followed Parmenides, then this image must be part of his attempt to meet the demands of Parmenides without sacrificing change and movement. It must be said that Reinhardt now interprets this fragment somewhat differently, to judge from his consideration of relativistic statements in *de nutrimento* at *Hermes* 77 (1942) 239f. Gigon takes the fragment to refer to the cyclical exchanges of matter which he claims to find in fr. 31 and elsewhere. There is, of course, nothing in the context in which it is quoted nor in the content of the fragment itself to suggest that it refers to physical change; furthermore, it is only by the most complex manipulation that true *cyclical*

[1] The more enlightened doctors held that there was no particular beginning-point, any more than an end-point, of the body, and that attacks on disease must be made through the body as a whole; in addition to the above passages cf. *de nat. hom.* 11; *de oss. nat.* 11.

change can be read into Heraclitus; there is only one so-called fragment which suggests it, Maximus Tyr. XLI, 4, the first of the three passages cited as fr. 76D. Here earth changes to fire, fire to air, air to water, water to earth—but the presence of air shows that we are dealing with a Stoicizing version of Heraclitus. Fr. 31, which is certainly genuine, presents a very different state of affairs: physical change is rectilinear (though Aristotle sometimes loosely describes these changes as cyclical), that is, fire changes to sea, sea to earth, earth to sea (*not* to fire, which is the next move in a true cyclical process), sea to fire. Even if we do not read ἐπὶ κύκλου it is difficult to see how fr. 103 expresses any truth relevant to this process. Fr. 36, to which Gigon wrongly resorted for the interpretation of the 'way up and down' (fr. 60), exemplifies the same rectilinear scheme, and so do the other Stoicizing paraphrases which form the rest of fr. 76D.

What we have before us is the simple assertion that beginning and end in a circle are 'common', that is, coincident. There is no evidence to show that Heraclitus was interested in circular processes either in nature or in thought.[1] As it stands, the fragment announces that two things which are normally opposed, especially when applied to the rectilinear course of human life, are in a special case coincident; there is no distinction between them. This is the essence of the other fragments assigned to this group, and there seems to be no reason to doubt that this fragment, too, is a statement that apparent opposites are, in certain cases and from certain aspects, the same. Gigon objected to this interpretation that if it were the real one Heraclitus would have said τὸ αὐτό, as in frr. 59, 60, instead of ξυνόν. This odd argument presupposes that Heraclitus always expressed the same sort of thought in exactly the same language. Apart from the doubt as to whether ἡ αὐτή in fr. 59 was added by Hippolytus from fr. 60 (pp. 103 ff.), and the fact that there are other statements of the coincidence of opposites which do not include the word αὐτός, an examination of Heraclitus' prose shows that he often aimed at variation of diction. The most simple interpretation seems, in the lack of other evidence, to demand provisional acceptance.

[1] Parmenides fr. 5, ξυνὸν δέ μοί ἐστιν | ὁππόθεν ἄρξωμαι· τόθι γὰρ πάλιν ἵξομαι αὖθις, presents a superficial resemblance which may have no significance except, perhaps, as an indication that the observation of 'circularity' was a common one. However, ξυνόν is used in a very similar manner in each case; the possibility that Parmenides is consciously echoing Heraclitus cannot be denied.

48

(66 B)

Etymologicum Magnum s.v. βίος (ex *Etym. Genuino*) ἔοικε δὲ ὑπὸ τῶν ἀρχαίων ὁμωνύμως λέγεσθαι βίος τὸ τόξον καὶ ἡ ζωή· Ἡράκλειτος οὖν ὁ σκοτεινός· **τῷ οὖν[1] τόξῳ ὄνομα βίος, ἔργον δὲ θάνατος.**

1 δὲ Tzetzes.

The bow and life seem to be called by the same name, 'bios', by the men of old; so Heraclitus the Obscure said: For the bow the name is life, but the work is death.

The same form of the fragment, with the same introduction, occurs in the scholion on *Il.* 1, 49 (*Anecd. Par.* III, p. 122 Cramer); Tzetzes, *Exeg. in Iliadem*, p. 101 Hermann, has the same quotation except for δέ instead of οὖν: Eustathius, commenting on the same line of Homer, paraphrases: ...διὸ καὶ ἀστείως ὁ σκοτεινὸς Ἡράκλειτος ἔφη ὡς ἄρα τοῦ βιοῦ, ἤτοι τοῦ τόξου, τὸ μὲν ὄνομα βίος, τὸ δὲ ἔργον θάνατος. No reliance can be placed on the genuineness of the particle, whether οὖν or δέ: admittedly οὖν after a previous οὖν or γοῦν in the *Etymologicum* and the scholiast must be intended to belong to the quotation, but may have been supplied as a means of introducing the original words of Heraclitus (as often in the case of γάρ) by the source of the Byzantine versions. There is no direct pre-Byzantine evidence for this fragment, but this is no overwhelming reason for doubting its authenticity: the form of the quotation accords with what we know of the style of Heraclitus; particularly notable are the introductory restrictive dative (rather than a genitive), as in fr. 36 and the probably derivative fr. 77, fr. 63 (perhaps), and fr. 89D, the first clause of which, however, is probably not original; and the absence of μέν, which would surely be found after ὄνομα in any but the archaic style—compare the version of Eustathius quoted above. Such a neat comment on the Homeric word βιός would be sure to draw the attention of the Alexandrian Homeric scholars; providing that it survived as long as that, its transmission to Byzantium was practically assured.

All modern editors and commentators have drawn attention to a similar antithesis of name and function in the Heraclitizing treatise *de nutrimento*, 21 (DK 22C2) τροφὴ οὐ τροφή, ἢν μὴ δύνηται, ⟨οὐ⟩ τροφὴ τροφή, ἢν [μὴ] οἷόν τε ᾖ τρέφειν. οὔνομα τροφή, ἔργον δὲ οὐχί· ἔργον τροφή, οὔνομα δὲ οὐχί (Diels' text). This treatise has been assigned to about the middle of the first century A.D. by H. Diller (*Arch. f. Gesch. d. Medizin* 29 (1937) 178ff. and especially 190f.), who detected in it some of the views of the Pneumatic school of medicine, as well as Stoic ideas. Too much prominence has probably been given to its Heraclitean character, which is mainly restricted to a slavish imitation of the style of some of Heraclitus' more oracular antithetical assertions together with the repetition of a few well-known words and phrases (e.g. ὁδὸς ἄνω κάτω, φύσις ἐξαρκεῖ πάντα πᾶσιν). F. Heinimann, however, in his excellent treatment of the ὄνομα–ἔργον antithesis in Greek thought (*Nomos und Physis* 46ff.), claims (p. 53) that the antithesis in *de nutrimento* 21 must derive from the school of Heraclitus since it does not seem to be Stoic: thus it appears to provide support for fr. 48. This unconvincing argument may be supplemented by that based upon a similar use, by Heraclitus and the medical gnomologist, of the ἔργον-ὄνομα antithesis. What the later author maintains is that the essence of a thing is determined by its function or activity, not by its name. If a certain type of food does not, in a particular case, nourish, then it does not deserve the name of 'food': it has been wrongly identified. The contrast is not the Sophistic one between conventional (or accidental) and natural characteristics—a contrast which appeared as early as Xenophanes (cf. fr. 32) but is not found in Heraclitus; that contrast is expressed by ὀνόματι...ἔργῳ, not ὄνομα...ἔργον: Calogero (*Giorn. Crit. della Filos. Ital.* 17 (1936) 205 n. 2; cf. *Gnomon* 17 (1941) 201) has well emphasized that ἔργῳ (= in reality) is very different from ἔργον (= function). The emphasis of the *de nutrimento* passage upon name and function may suggest that the author had retained a memory of the contrast in Heraclitus fr. 48; but even if this is so (and it is very hypothetical), the application of the contrast in the later work can tell us little or nothing about its application by Heraclitus which is not immediately apparent from the fragment itself.

For Heraclitus, however, ὄνομα as opposed to ἔργον did not represent a merely accidental attribute of a thing, unconnected with

its real nature; in other fragments he uses verbal similarities in such a way as to suggest that for him they had a real significance; cf. frr. 1, 25, 26, 28, 32, 114. It could be maintained that this was merely a trick of style, and that the connexion of, for example, μόροι and μοίρας in fr. 25 was due not to a belief that they were really connected because of their similar names but to the feeling that the assertion intended in this fragment is stronger and more striking if expressed in this form. However, Snell (*Hermes* 61 (1926), esp. 367ff.) has made out a convincing case for assigning a more than stylistic motive to the use of word-similarities by Heraclitus. He suggests that for him the names of things give some indication of their nature, just as, in fr. 93, the Delphic Apollo is said neither to speak outright, nor to hide, but to give an indication through the enigmatic words of the prophecy. For this question fr. 67 is of the greatest importance: there we learn that 'God is day night, winter summer, war peace, satiety hunger; he is changed in the way that fire, whenever it is mixed with spices, *is named* according to the savour of each'. Snell 368 comments that 'der Name hebt nur eine Erscheinung gesondert heraus und zerstört darum das Wesentliche'. But 'destroys' is too strong a word to use, unless it is meant that anything which does not describe the whole essence of a thing destroys that essence as a whole. For just as when myrrh is cast into the flames of a sacrificial fire it is wrong to describe the mixture simply as 'myrrh', yet it remains true that myrrh forms a part of the mixture, so when god is described simply as 'day' or 'peace', without any mention of the corresponding contraries, he is only being described *in part*; such a description would be misleading, because incomplete, but it would not be untrue in the sense of being entirely false. Thus the name which is given to a complex cannot be entirely ignored, for it will tell us something about the complex, even if only about one of its constituents. So too in fr. 32 Heraclitus talks of something which 'is unwilling and willing to be called by the name of Zeus': whatever is the reference of this remark, it is clear that this name does to some extent correspond with the true nature of the subject, and to this extent it is approved; hence it may be deduced that Heraclitus was not surprised to find some real correspondence between the name and the thing named, even if this correspondence is usually far from complete.

In the past it has often been suggested that Heraclitus' views on the

nature of names are revealed in the *Cratylus* of Plato, throughout which Cratylus is seen to uphold the φύσει ὀρθότης of all names. But Cratylus was, at the most, a 'Heraclitean', and as such does not necessarily represent the ideas of Heraclitus himself; indeed Reinhardt, *Parmenides* 241ff. (cf. also Warburg, *N. Philolog. Unters.* 5 (1929) 5ff.; Heinimann *Nomos und Physis* 53f.), has clearly shown that Plato commonly used the 'Heracliteans' as representatives of the theories prevalent in sophistic circles, theories which perhaps had no connexion either with Heraclitus or with any specific followers of his. To this I would add that the evidence that Cratylus was, in fact, a habitual follower of Heraclitus needs careful consideration, and that this is not a legitimate conclusion at any rate from the Platonic dialogue: see my article 'The Problem of Cratylus', *AJP* 72 (1951) 225ff.

A much more cogent indication of the fact that for Heraclitus names bore some essential relation to objects, and were capable of revealing a truth about them which might not be otherwise obvious, is provided by the not uncommon instances of etymology in the tragedians and especially in Aeschylus—whose *Agamemnon*, produced in 458, cannot have been written much more than twenty years after Heraclitus' death. At *Ag.* 681f. the chorus ask, *à propos* of the name 'Ελέναν (explained as ἑλέναυν), τίς ποτ' ὠνόμαζεν ὧδ' | ἐς τὸ πᾶν ἐτητύμως; Compare the similar significant etymologies of 'Απόλλων and κῆδος at lines 1080ff., 699ff. of the same play. The same sort of reference to the 'true' or 'correct' character of certain names, not always proper names, occurs at *Cho.* 948 (also ἐτητύμως); *Suppl.* 315 (ἀληθῶς); *Sept.* 829 (ὀρθῶς); fr. 6, 3 Nauck (εὐλόγως); *Suppl.* 585 (ἀληθῶς): see Eduard Fraenkel *Aeschylus, Agamemnon* II, p. 329 (n. on l. 682), and the article of R. Pfeiffer cited there. Instances from the other tragedians, in whom this interest in the ὀρθώνυμον is perhaps less striking than in Aeschylus, are collected by M. Warburg, *N. Philolog. Unters.* 5 (1929) 76ff. The subject is well treated, in relation to Heraclitus and Aeschylus in particular, by Calogero *op. cit.* 206f. This belief that names can indicate the real character of an object, evidently shared to a high degree by Heraclitus and Aeschylus in spite of their different aims and background, supplies a possible motive for the griphic devices beloved of both authors: the real ambiguity in things and events is sometimes reflected in their names, and correct behaviour in relation to these

ambiguities depends upon the exercise of intelligence and discretion in the resolution of the verbal cruces. No doubt a more direct and concrete motive was supplied by the traditional ὕψος-style of the Delphic oracle.[1]

Having established that Heraclitus, while not having any such thing as a 'Sprachtheorie', did appear to believe that names tended to reveal some part of the truth about the character of the objects to which they were attached, we may now consider the particular significance for him of the similarity between a possible Greek word for 'bow' and the regular Greek word for 'life'.[2] Is this fragment intended as nothing more than a further specific example of a connexion, from a certain point of view, between two apparent opposites? It might well be so: the words τῷ τόξῳ (the article, of course, might have been added after Heraclitus) stand at the beginning of the sentence to define the particular sphere in which the connexion between opposites applies, as γραφέων stands at the beginning of fr. 59. In the instances of the connexion of opposites so far considered the opposites in question have been comparatively trivial, except for the very general concepts 'harmful' and 'beneficial' or 'unpleasant' and 'pleasant' in frr. 13, 9, 58. In this fr. 48 it happens

[1] Heraclitus has frequently been called the first thinker to construct a theory of language. This can only be termed grossly misleading. The desire to show that such and such a man was 'the father of' history or philosophy or any other pursuit has been the cause of more than one serious misinterpretation of the development of Greek culture. Nestle, *Philologus* 64 (1905) 382 f., asserted that Heraclitus was influenced by Orphic etymologies like Πάν from πᾶν (fr. 54 Kern), Φάνης from φαίνω (fr. 75 K). There is no evidence whatsoever that any of these etymologies in specifically Orphic contexts belongs to a period as early as the fifth century B.C.

[2] Calogero, *op. cit.* 204, made the extraordinary remark that the similarity between βίος and βιός 'was not yet diminished, as it is for us, by the use of the written accent and the phonetic transposition of the musical accent into the stress accent'. Admittedly there was no written accent, but the difference between the two words was just as marked, in speech, whether the phonetic accent was one of pitch or stress. However, the other examples of word-similarities in Heraclitus demonstrate that he did not demand anything like exact correspondence. It is true that in this case there is an exact correspondence in the written form of the two words: were it not for the fact emphasized in the previous sentence, it would be tempting to take this fragment as a positive indication—and the only one in the extant fragments—that Heraclitus *wrote* his apophthegms, rather than uttering them so frequently that a standard version became known and eventually recorded.

that the opposites which appear to be connected, in the particular case of the bow of which the name is also 'life', are a pair of which the essential unity perhaps had a special significance for Heraclitus. The identity of life and death (more strictly, of living and dead) is explicitly asserted in fr. 88, together with that of the waking and the sleeping, young and old: ταὐτό τ' ἔνι ζῶν καὶ τεθνηκός.... The reason for this 'identity' is that 'these change round and are those and those change round and are these'—in other words, because these extremes inevitably succeed one another (or one inevitably passes into the other), they are essentially connected and so, in Heraclitus' terms, 'the same': see on Group 5, pp. 134 ff. Fr. 62 states that 'immortals [sc. are] mortal, mortals immortal'—again, there seems to be a basic unity underlying life and death, because the first inevitably gives way to the second (and perhaps, for Heraclitus, vice versa). But both these cases might be intended merely as further *examples* of a general truth which Heraclitus was trying to prove, that things which inevitably succeed one another are essentially connected. At fr. 15 occurs an assertion that 'Hades and Dionysus are the same', where the two deities may represent death and life, and where there is certainly no argument from succession. It is conceivable, though unlikely, that in fr. 32 the subject 'does not wish to be called by the name of Zeus' because the stem of this name, ζην-, suggests 'life', and life is associated with death. This is the sum of the evidence from the extant fragments that Heraclitus attached special importance to the equation of life with death: it is evident that for the most part 'equation', strictly speaking, is not in question. The conclusion must be that the evidence for a positive doctrine of the identity of life and death is not strong enough to justify the interpretation of a fragment which only incidentally involves these terms, like this fr. 48, as specifically aimed at the general restatement of such an identity. Nevertheless Zeller, ZN 805 f.; Diels, *N. Jahrb.* 25 (1910) 3; Gigon, 92 and 124, have accepted this kind of interpretation without question. Gigon further remarked that the image reminds one of fr. 51, where the bow and the lyre are said to have a παλίντονος ἁρμονίη; Heinimann, *Nomos und Physis* 55, refers to this remark with approval. In fact, however, the use of the same word τόξον in two apparently different contexts lacks all significance, and does not deserve comment unless we are prepared to accept a rather complex interpretation of the sense

of fr. 48: that not only does the name βιός suggest life, as well as the proper function of the bow which is death, but the instrument as a whole, because of the tension of the string and the frame which while pulling against each other nevertheless present an appearance of stability, suggests the principle of πόλεμος or ἔρις which, as can be learnt from the fragments of Group 8, maintains the structure of the phenomenal world. The removal of war and strife—the relaxation of the tension—would result in the destruction of the κόσμος: thus the bow, whether it be called τόξον or βιός, exemplifies the principle of life in the way outlined in fr. 51.

In my view such interpretations, while they cannot be rejected absolutely, do not carry conviction. What is quite clear is that the bow is yet another example of the concurrence in a particular concrete instance of two states normally counted as radically opposed to each other. In this instance the name of the implement in question is almost identical with the name of the opposite of the implement's chief function. If names were considered by Heraclitus to have no real connexion with things, then this instance would be utterly worthless: as it is, he considered that there was some real connexion, that the name could indicate an otherwise obscure truth about the thing to which it was attached; therefore this opposition between name and function, while not meaning that the bow was life or anything of this sort, had enough force to support a case demonstrated at greater length and with fuller documentation elsewhere. Only if this interpretation is accepted does the fragment have any real point; and point is something which all of Heraclitus' sayings seem pre-eminently to have had.

GROUP 4

Frr. 23, 111

The fact that men recognize some conditions and sensations to be desirable and good shows that within this sphere of human judgement opposites exist and are complementary to each other: it would be impossible to qualify anything as 'good' if the opposite, which is known to be 'bad', did not exist. The fact of differentiation within each category, and the possibility of change, shows that there must be two opposite extremes in each type of predicate; yet these extremes are complementary, and, together with the intervening stages, form a single nexus. That one extreme cannot be imagined without the other is a further proof of the unity of opposites.

23

(60 B)

Clement *Stromateis* IV, 9, 7 (II, p. 252 Stählin) ὅταν γὰρ ἀφέλῃς τὸ αἴτιον τοῦ φόβου, τὴν ἁμαρτίαν, ἀφεῖλες τὸν φόβον, πολὺ δὲ ἔτι ⟨μᾶλλον τὴν⟩[1] κόλασιν, ὅταν ἀπῇ τὸ πεφυκὸς ἐπιθυμεῖν· "δικαίῳ γὰρ οὐ κεῖται νόμος", ἡ γραφή φησιν. καλῶς οὖν Ἡράκλειτος **Δίκης ὄνομα** φησὶν **οὐκ ἂν ἤδεσαν**[2] **εἰ ταῦτα**[3] **μὴ ἦν**, Σωκράτης δὲ νόμον ἕνεκα ἀγαθῶν οὐκ ἂν γενέσθαι.

1 suppl. Wendland. 2 ἔδησαν cod.; ἔδεισαν Höschel; ἤδεσαν Sylburg, accep. Wendland, Diels. 3 ταῦτα cod.; τἀντία coni. Diels, τἀντία vel τἄδικα Kranz; ταὐτὰ Reinhardt.

For whenever you have removed the cause of fear—sin—you have removed the fear itself; but much more have you removed the punishment, whenever that which is by nature full of desire is absent: for 'the law is not made for a righteous man' [= *I Timothy* i. 9], *the Scripture says. Well then does Heraclitus say* They would not know the name of Dike, if these things did not exist, *and Socrates that law would not have come into being for the sake of good men.*

Zeller, ZN 913, rightly remarked that the context in Clement does not enable us to interpret the quotation from Heraclitus with any certainty. The ms. reading ἔδησαν must be wrong; the occurrence of τὸν φόβον in Clement's discussion just before the quotation lends a superficial plausibility to Höschel's ἔδεισαν (supported also by H. Gomperz, *Zeits. f. öst. Gymn.* 61 (1910) 964), but a closer examination of the context shows that there is no longer any question of fear by the time the quotations from I Timothy, Heraclitus and Socrates are made. Clement's point is that the absence of a knowledge of sin (caused according to some people by the existence of laws) removes fear, the consequence of this knowledge; but the absence of any tendency towards bodily desires which can lead to sin, as in the case of the soul which is being trained through the true philosophy (mentioned earlier in this same discussion), removes the very possibility of punishment and therefore the fear of punishment. For such souls law and its concomitants are utterly irrelevant: law

was made for the bad, not for the good. This last sentiment is unmistakably expressed in the quotations that precede and follow the saying of Heraclitus, and it must be assumed that in Clement's opinion at any rate this saying had a similar import. By this point Clement has advanced beyond the consideration of fear. In these circumstances Sylburg's conjecture, ἤδεσαν, may be provisionally accepted. The subject of this verb lies, of course, outside the quotation: the context in Clement suggests, if anything, that it was not 'men' in general, but 'good men'; yet Clement would not have hesitated to use the quotation even if he did not know its proper context, or if this context did not exactly accord with his own; in addition, the more general subject may the more easily have fallen out of the tradition. Thus the subject may well have been simply ἄνθρωποι.

Since it is certain that the subject of the main verb lay outside the quotation, it is quite possible that ταῦτα refers to a substantive which also was not quoted: attempts to emend ταῦτα, therefore, in order to make the fragment complete in sense, are unnecessary and so unjustified. The context in Clement gives little help in the determination of the reference of ταῦτα. The main topic, admittedly, is Law; Zeller assumed that the pronoun referred to 'the laws', and quoted the interpretation of Schuster 304, that the fragment is a criticism of men for having no appreciation of justice without the aid of laws. This is possible; the objections against it are, first, that if in its original context the fragment formed part of a clear attack on the Many it is strange that it was not more widely known in later antiquity; Heraclitus' criticisms of men were popular, supporting as they did his character as ὀχλολοίδορος. Secondly, whatever δίκη implies here it cannot imply exactly 'justice'; and only, perhaps, if δίκη represents some kind of positive virtue is Schuster's interpretation possible—see the discussion of the word below. But this interpretation is unnecessary: the intention of the fragment could be to praise Nomos (cf. frr. 114, 44). Further, some support for taking ταῦτα to refer to Law or laws is apparently provided by the last two sentences of the seventh pseudo-Heraclitean letter (Bernays *Die heraklitischen Briefe* 68; Bywater p. 76) τὰ μάλιστα δοκοῦντα δικαιοσύνης εἶναι σύμβολα, οἱ νόμοι, ἀδικίας εἰσὶ τεκμήριον· εἰ γὰρ μὴ ἦσαν, ἀνέδην ἂν ἐπονηρεύεσθε. νῦν δ' εἴ τι καὶ μικρὸν ἐπιστομίζεσθε φόβῳ κολάσεως, κατέχεσθε εἰς πᾶσαν ἀδικίαν. This

particular letter is otherwise deficient in references to extant fragments, and for its Heraclitean character depends on occasional parodies of Heraclitus' antithetical style and the fact that it purports to be written by Heraclitus to Hermodorus. Yet the words εἰ γὰρ μὴ ἦσαν, referring to οἱ νόμοι, certainly look as though they are a reminiscence of εἰ ταῦτα μὴ ἦν in the fragment, where the reference may well be the same. It is probably accidental that the words which immediately follow the protasis in the epistle, ἀνέδην ἄν, only differ by a single letter from the unacceptable ms. reading in Clement of the words which precede the protasis there, ἂν ἔδησαν. Yet the subject is the same in both contexts, namely, law, and the letter mentions a double concept, using the same words, which had been employed by Clement shortly before the quotation from Heraclitus—φόβῳ κολάσεως: the coincidences are serious enough to promote the possibility that Clement and the author of the seventh letter used the same or related sources at this point. Clement of Alexandria was a man of immensely wide learning who evidently had access to impressive collections and summaries of Greek authors, of which he made full use. The author of this letter, on the other hand, is a shadowy figure: the whole collection originated probably in the first century A.D. (Clement's *Stromateis* were written around A.D. 200). Not all are by the same hand, though they may be the product of different pupils in a single school of rhetoric. It is possible, though no more, that the letter was written in Alexandria itself, some hundred years before Clement; but even if not it may have had as source some Cynic-Stoic compendium which was also used in the composition of the *Stromateis*.

This speculation, indefinite as it must be, appears to support the view that in the fragment of Heraclitus the proper antecedent of ταῦτα is something like οἱ νόμοι. It is possible, however, that the hypothetical single source of Clement and the author of the seventh letter was responsible for giving the saying this reference: if the antecedent of the pronoun disappeared quite early in the tradition then all sorts of false interpretations may have arisen, and this may be one of them. If that were the case, then the attempt to retrieve the meaning of Heraclitus himself would have to be based, after all, upon the quotation itself, on the one hand, and our knowledge of the sort of thing that Heraclitus might have said, derived from the assessment of other extant fragments, on the other.

Teichmüller, *N. Stud. z. Gesch. d. Begriffe* (1876) I, 131f., took ταῦτα to refer to evil actions of men: only because of the existence of such actions and the weakness of character which gives rise to them is it necessary for men even to have heard of Dike. Diels favoured emendation to τἀντία, and thus supported the same view; Kranz in DK suggested τἄδικα as an alternative emendation.[1] It has already been remarked that such emendations are unnecessary. If the fragment has the sense suggested, then it is probable that the word which lay outside the quotation by Clement, and to which ταῦτα refers, was ἄδικα; for the point would presumably be that the one extreme would not be known, or exist, were it not for the existence of the other—in other words, we should expect a mention of formal opposites. Δίκη and ἄδικα are opposites of this sort, whatever the exact significance of the former word here; their morphological opposition is sufficient to meet Heraclitus' requirements. It is necessary none the less to examine the meaning of δίκη. The translation of, for example, Burnet 137, 'the name of justice', is to some extent misleading: for δίκη is not identical with the later δικαιοσύνη, implying an abstract principle (though at Plato *Protag.* 322D–323A both words are used for the same concept). The etymology of δίκη is debated; the present writer is content to accept that it is connected with δείκνυμι and developed from a Sanskrit root diç- meaning 'indication' or 'direction' (see now L. R. Palmer, *Trans. Philol. Soc.* (1950) 149ff.). Jaeger, *Paideia* I (Eng. trans.³, Oxford, 1946) 442 n. 16, was surely right in rejecting the derivation from δικεῖν meaning 'to throw'. The extant usages of the word in Greek can be divided according to meaning into the following classes: (1) 'approved custom' or 'established order'; (2) 'judgement'; (3) 'lawsuit' or 'trial'; (4) 'punishment' or 'penalty'. (3) and (4) are not found in the Homeric poems. (1) and (2) are easily explained as 'the right direction'; (3) and (4) are derivative, perhaps from (2) in particular: but it may be that a slightly different sense of the root is stressed in (4) at any rate, not so much the *pointing out* of the right direction among two opposed ones as the *marking* of the guilty party. The above analysis of usages is based on the article in

[1] Reinhardt's reading, ταὐτά (*Parmenides* 204 n. 1), assumes that the word refers to a phrase such as 'good and bad' lying outside the quotation. The sense given is the same as in Teichmüller but is reached in a more devious way. There seems to be no advantage in making this alteration.

LSJ, although differing in emphasis: a consideration of the Presocratic occurrences (see the word-index in DK, s.v. δίκη) shows that these did not diverge from the general pattern. Even under Kranz's heading 'opp. ἀδικία u. ähnl.', there is no instance where the word means abstract justice; it is only opposed to ἀδικία where the latter word means 'wrongdoing' in a concrete sense, e.g. in Democritus fr. 215. The distinction in meaning is blunted for us because 'injustice' in English can mean either the abstract principle or the concrete instance (e.g. 'You do me an injustice'), while 'justice' nearly always refers to the abstract principle. In English, however, as in post-Homeric Greek, 'justice' can stand for 'punishment' or 'legal decision'. In Heraclitus the word occurs in three instances apart from the one under discussion: in fr. 94 it is clearly a personification (Ἐρινύες...Δίκης ἐπίκουροι); Jaeger, *Theology* 116, remarks that 'here Dike serves as an embodiment of the inviolable order of nature'. In fr. 28 the use is similar (...Δίκη καταλήψεται ψευδῶν τέκτονας...). In fr. 80 'it is necessary to know that war is common καὶ δίκην ἔριν...'. Here the reference may be to Anaximander fr. 1 (presumably of the opposites), διδόναι γὰρ αὐτὰ δίκην καὶ τίσιν ἀλλήλοις τῆς ἀδικίας: but in the Heraclitus fragment the meaning cannot be 'punishment' or 'amends', but must be 'the right way', 'the proper course of events'; in other words, it is analogous to one extension of the meaning in frr. 94, 28, where the personified Dike represents conflation of this 'right way' with the idea of punishment for infringement. Both ideas are expressed in Jaeger's phrase 'the inviolable order of nature'. It is reasonable to suppose that the sense of δίκη in this fr. 23 accords with the sense which Heraclitus has certainly assigned to the word in the other three fragments: that it means 'the right, or established, way'. Is the idea of punishment for infringement present too, as in frr. 94, 28? A firm answer to this question is impossible: in those two fragments the context shows clearly that the negative aspect of Dike, the idea of a force which cannot be opposed without disaster, cannot be disregarded; in the present fragment, however, the context (which is to some extent incomplete) gives no such information. But there is certainly no specific adjunct like Ἐρινύες or καταλήψεται: this being the case it may be considered that Dike, by itself, is more likely to call to the mind of the hearer the positive and perhaps prior idea of the right way for people and

things to behave, rather than the negative idea of correction consequent upon departures from that way.

If the idea of correction is indeed absent from the use of the word in this fragment, then the Teichmüller-Diels view that ταῦτα refers to unjust acts is strengthened, as against the Schuster-Zeller view that it refers to law or laws. Zeller was surely mistaken in holding that the former view demanded the interpretation of δίκη here as Δίκη πολύποινος (cf. Parmenides fr. 1, 14). I accept that view, chiefly because Heraclitus is unlikely to have justified Law (the existence of which he certainly assumed, cf. fr. 114) by reference to specific man-made laws, to which the plural ταῦτα must, on the Schuster-Zeller interpretation, refer. The argument is, then, that men only recognize a 'right' way because of the examples that they have of the existence of a 'wrong' way. In an undifferentiated world there would be no such thing as a proper way of behaving. For Heraclitus things in the world happen according to a definite plan, to a rule or measure: this is Dike. Yet were it not for the occurrence of occasional anomalies, of events contrary to Dike, then this Dike would not be known and appreciated. The absence of injustice, in this sense, might not destroy the κόσμος (though it is impossible to be sure that Dike does not of itself imply the existence of an opposition, for in fr. 80 it is said to be ἔρις: and the world would not exist without an element of strife and opposition); but what we are concerned with here is the human view of Dike rather than its abstract essence. This is shown by the word ὄνομα. Dike was in fact a widely shared human concept, and this is enough for Heraclitus' argument: this concept would not exist at all were it not for the existence of its opposite. According to this interpretation, then, the fragment presents another indication of the essential connexion of certain apparent opposites: but here the discovery of identity (of a kind) is applied not to the more or less trivial sphere of sensation or opinion, but to the commonly accepted structure of moral life. This interpretation must naturally remain speculative; in addition to the considerations already adduced, the analogy of fr. 111, which certainly has a similar intention, helps to turn the balance in its favour.[1]

[1] It is impossible to determine how far Heraclitus in this fragment is thinking of Dike as a personification. In fr. 94 he certainly is, and in fr. 28 probably; so I have given the word a capital letter in the main text. In any case some degree of personification is involved.

III

(104b B)

Stobaeus *Florilegium* I, 177 (III, p. 129 Hense) Ἡρακλείτου· (frr. 108–10) ...**νοῦσος ὑγιείην[1] ἐποίησεν ἡδὺ καὶ ἀγαθόν[2], λιμὸς κόρον, κάματος ἀνάπαυσιν** (seq. frr. 112–15).

1 ὑγιείην A; ὑγείην M^d; ὑγείαν Tr. [= editio Trincavelliana]. 2 ἡδύ, κακὸν ἀγαθόν Heitz, Diels.

By Heraclitus: (*frr.* 108–10) ...Disease makes health pleasant and good, hunger satiety, weariness rest (*frr.* 112–15 *follow*).

Th. Gomperz and Bywater took this fragment to be a continuation of the previous extract in Stobaeus, fr. 110: ἀνθρώποις γίνεσθαι ὁκόσα θέλουσιν οὐκ ἄμεινον· νοῦσος ὑγιείην.... Admittedly this gives a possible sense (though one would expect γάρ); yet there is nothing in the mss. to suggest that Stobaeus at any rate took these fragments to be continuous. Unfortunately, the excellent Codex Vindobonensis Sambuci (S) is lacking for the early part of the *Florilegium* (= Stobaeus bks 3, 4); but the later hand, which tried to fill this deficiency from another source, is not too inaccurate (S rec.), and more reliable still is Trincavellus' edition based on the lost Codex Marcianus (Tr.). M and M^d represent separate collations of the Codex Escurialensis Mendozae: on these mss. see the Prolegomena to Hense's Teubner text (1894). As a matter of interest, frr. 110 and 111 are the only pair among frr. 108–14 which are *not* written continuously in at least one source: thus M wrote 108–10 continuously and S rec. and Tr. wrote 111–14 continuously. The omission of the lemma Ἡρακλείτου before each extract has been responsible for these baseless conjunctions.

The mss. also reveal much inconsistent Ionicization, at some stage in the tradition, of all this group of extracts from Heraclitus. Modern editors, especially Meineke and Mullach, have attempted to impose a consistency on the text, and so disguised the fact that the dialect forms are likely to be spurious. Ionic κ for π as in ὅκως is consistent all through; but M^d has γιγν-, not γιν-, in frr. 108, 110, and Tr. gives the certainly non-Ionic form ὑγείαν in this fragment 111, as against the less trustworthy A and M^d. None of the mss.

gives the uncontracted forms of verbs; in frr. 110, 111 little is told by ephelcystic -ν; in fr. 110 they give the dative plural in -οις, not -οισι. On the other hand, first declension nouns are regularly given the Ionic termination in -η. These inconsistencies are typical of the sometimes ignorant re-Ionicization of texts which was a favourite occupation of Byzantine scholars in particular; that we are not dealing here with the remnants of original dialect-forms, seen in the process of being superseded by Attic or Κοινή forms, is perhaps well shown by a consideration of the word printed as ὑγιείην above. Only Tr.M^{d}A have this extract; in this order (which is also the order of trustworthiness, A being particularly fallacious) they give ὑγείαν ὑγείην ὑγιείην. Thus the best established root is ὑγει-, not ὑγιει-. But ὑγεία (like, for example, ἀλεία) is a late Hellenistic form not found before the second century B.C.; an Ionic form ὑγείη is also found after this time. The Herodotean form (e.g. II, 77) was evidently ὑγιείην, and this is presumably how the word as used by Heraclitus was first recorded: that A has it is probably accidental. The result of this examination is that in no fragment quoted by Stobaeus can the presence of a common Ionic form be counted as a criterion of genuineness.

There is no reason, however, to doubt the genuineness of this fragment. The aorist ἐποίησεν may be compared with the aorists in fr. 53, ...τοὺς μὲν θεοὺς ἔδειξε...τοὺς μὲν δούλους ἐποίησε..., where the tenses are probably gnomic (the sense could be 'War... has shown, once and for all, some as gods and some as men'; but since the continuity of Πόλεμος is stressed here and elsewhere it is more probable that the aorists have a present sense). Here too it could be argued that disease long ago in the past gave health the reputation, which it still has, of being pleasant; but again it is more probable that ἐποίησεν represents an abiding truth. Attempts to emend ἡδὺ καὶ ἀγαθόν are misguided; the phrase οὔτε ἡδὺ οὔτε ἀγαθόν appears in Hdt. III, 80 and is a reasonable enough combination of epithets, even if it strikes us as being a little weak and unconcise in the present context. Indeed, perhaps its length is its virtue: for either ἡδύ or ἀγαθόν alone would fail to support the weight of νοῦσος ὑγιείην ἐποίησεν, words which form a single rhythmical group. Gigon 111 (cf. Wilamowitz, *Hermes* 62 (1927) 278) made a more important point: κακὸν ἀγαθόν, the new pair of opposites obtained by Diels' emendation (accepted by Reinhardt, *Parmenides*

204 n. 2), is of an entirely different character from the other pairs mentioned here, which are all of a more concrete nature and all affections of the body. It is thus quite out of place; it may be added that, although most modern scholars accept without question that Heraclitus specifically proclaimed the identity of good and evil, there is no evidence for this (apart from the special case of fr. 102) before Aristotle, who may have drawn this conclusion himself from other statements of Heraclitus: see pp. 93ff. Kranz in DK has rightly reverted to the ms. reading.

The three pairs of opposites mentioned all recur in other fragments: sickness-health in fr. 58 (though not exactly: the real opposition is between hurting and curing); hunger-satiety in fr. 67 (same words used) and fr. 65 (χρησμοσύνη–κόρος); weariness-rest, probably, in fr. 84. Fr. 58 is an example of the coincidence of apparent opposites in a special instance; fr. 67 incidentally asserts the identity of a number of pairs of opposites, as different aspects of θεός. Frr. 65 and 84 may not be intended particularly to illustrate the coincidence of opposites; but does not the analogy of frr. 58 and 67 suggest that in fr. 111 also the intention is primarily to assert the unity of opposites—this time on the ground that men's approval of desirable conditions of the body depends on their knowledge of the existence of possible undesirable conditions? The fragment is a practical statement of human experience, not a theoretical excursion into the metaphysics of ethics. ἡδύ shows that the human standard is the important one; from the absolute point of view, indeed, there is no difference at all between such opposites (fr. 102). Heraclitus took his indications of the identity of opposites from the world as men experience it: there both disease and health undeniably exist, and men would not derive so much satisfaction from being well if they did not know what it was like to be ill. This empirical argument is sufficient to indicate the essential connexion between disease and health. Gigon, however, took an entirely different view (p. 111): 'Der Gedanke ist rein ethisch: Eine Rechtfertigung des Übels....' This, of course, is much more extreme than the ethical sense given to the fragment by Bywater and Gomperz when they connected it with fr. 110. Were there really, at the beginning of the fifth century, Greeks who were already attempting to explain, in an almost metaphysical way, the existence of evil? The contrary, rather, is the case, that evil was something unquestionably accepted; or, more strictly, certain things were accepted as κακά—for even to talk of 'evil' in this way, as a single abstract category, is to reveal the influence of later speculation. Thus in the Pythagorean συστοιχίαι, ἀγαθόν and κακόν formed one of the ten basic oppositions: κακόν was accepted as naturally and readily as καμπύλον, σκότος, θῆλυ. Like them, it came in the column headed by ἄπειρον—but 'unlimited' itself was accepted as a necessary component of the world as we see it; there was no need to justify its existence as the Christian tries to justify the existence of Evil. This kind of dualism, like the mythological dualism of stories like that of Kronos and Ophioneus (Pherecydes fr. 4) or Zeus and the Titans, was the result, not of an attempt to justify an apparent defect in a world that should be perfect, but of a simple realistic analysis.

Even if the kind of ethical interpretation proposed by Gigon involves a grave anachronism (being more suitable to the period of the later Plato), the Bywater-Gomperz solution remains a possible one. The chief argument for an original ethical context for the fragment is its preservation by Stobaeus along with others which are unmistakably ethical, or at least applicable to human behaviour. Yet all that this shows is that fr. 111 found its way into some collection of ethical sayings, made perhaps many centuries after Heraclitus, which Stobaeus used as a source. Once isolated from its proper context the fragment might easily seem to a superficial judge to have a primarily ethical force: the word ἀγαθόν alone might suggest this. And in fact it is true that both fr. 111 and fr. 23, which are counted here as forming Group 4, could have had the primarily ethical purpose of reconciling men to the 'bad' things of life. Nevertheless, in all other assessable cases where pairs of opposites are mentioned the idea of their connexion and essential unity is paramount: the chances are, then, that this is the paramount idea in these fragments too, and that they form yet another proof of this connexion, a proof based this time upon human assessments of the correctness (fr. 23) and the desirability (fr. 111) of different types of activity and sensation.

GROUP 5

Frr. 88, 126, 57 [+ 106D], 99

Some opposites are 'the same' (that is, are essentially connected as extremes of a single process) because they invariably succeed each other. These opposites are all apparent in the course of nature: in inevitable cosmic cycles, like day-night; in human cycles, like sleep-waking (and by analogy, life-death); and in the constant variations of matter, like those between the hot and the cold. Groups 2–4 demonstrated the underlying unity of apparent opposites by showing that the appearance of opposition was often relative to varying standards of judgement: this group takes a different category of opposites and demonstrates their essential unity without reference to an animate standard. Even within the group the character of the succession of opposites differs slightly in different fragments; and in fr. 88 the main intention may have been the assertion of a truth about human conditions, as much as the illustration of the underlying logical assumption.

88

(78 B)

[Plutarch] *Consolatio ad Apollonium* 10, 106E πότε γὰρ ἐν ἡμῖν αὐτοῖς οὐκ ἔστιν ὁ θάνατος; καὶ ᾗ φησιν Ἡράκλειτος, **ταὐτό τ' ἔνι[1] ζῶν καὶ τεθνηκὸς καὶ τὸ[2] ἐγρηγορὸς καὶ τὸ[3] καθεῦδον καὶ νέον καὶ γηραιόν· τάδε γὰρ μεταπεσόντα ἐκεῖνά ἐστι κἀκεῖνα** πάλιν **μεταπεσόντα ταῦτα.**[4] ὡς γὰρ ἐκ τοῦ αὐτοῦ πηλοῦ δύναταί τις πλάττων ζῷα συγχεῖν καὶ πάλιν πλάττειν καὶ συγχεῖν καὶ τοῦθ' ἓν παρ' ἓν ποιεῖν ἀδιαλείπτως, οὕτω καὶ ἡ φύσις ἐκ τῆς αὐτῆς ὕλης πάλαι μὲν τοὺς προγόνους ἡμῶν ἀνέσχεν, εἶτα συγχέασ' αὐτούς[5] ἐγέννησε τοὺς πατέρας, εἶθ' ἡμᾶς, εἶτ' ἄλλους ἐπ' ἄλλοις ἀνακυκλήσει. καὶ ὁ τῆς γενέσεως ποταμὸς οὗτος[6] ἐνδελεχῶς ῥέων οὔποτε στήσεται, καὶ πάλιν ὁ ἐξ ἐναντίας αὐτῷ ὁ τῆς φθορᾶς εἴτ' Ἀχέρων εἴτε Κωκυτὸς καλούμενος ὑπὸ τῶν ποιητῶν. ἡ πρώτη οὖν αἰτία ἡ δείξασα ἡμῖν τὸ τοῦ ἡλίου φῶς, ἡ αὐτὴ καὶ τὸν ζοφερὸν Ἅιδην ἄγει. καὶ μήποτε τοῦδ' εἰκὼν ᾖ ὁ περὶ ἡμᾶς ἀήρ, ἓν παρ' ἓν ἡμέραν καὶ νύκτα ποιῶν, ἐπαγωγὸς[7] ζωῆς τε καὶ θανάτου καὶ ὕπνου καὶ ἐγρηγόρσεως.

1 τ' ἔνι ΦΠ, γ' ἔνι codd. cett.; γένει coni. Wilamowitz; γε δὴ coni. Reinhardt; ταὐτῷ τ' ἔνι Bernays. 2 τὸ codd., Diels; del. Reiske. 3 τὸ om. ΦΠ (pr. E) B, hab. codd. cett. 4 τάδε—ταῦτα Heraclito abrogavit Wilamowitz. 5 συνεχεῖς αὐτοῖς codd.; συγχέασ' αὐτούς Sauppe; αὐτὴν Hartman. 6 οὕτως ΦD, οὗτος codd. cett. 7 ἐπαγωγὸς B, Paton; ἐπαγωγοὺς Δ υ, Emperius, Bernardakis; ἐπαγωγὰς codd. cett.

For when is death not in our own selves? and as Heraclitus says, And as the same thing there exists in us living and dead and the waking and the sleeping and young and old: for these things having changed round are those, and those things having changed round *again* are these ones. *For as a man, when he is moulding living creatures out of the same clay, can destroy one and again mould another and then destroy that, and can do this incessantly one after the other, so also from the same material Nature once put forth our ancestors, then having destroyed them she produced our fathers, then us, then others on top of others in a circular process. And this continuously flowing river of becoming will never stop, and again neither will its opposite, the river of destruction, whether it be*

called by the poets Acheron or Cocytus. Now the first cause which showed to us the light of the sun, the same brings dark Hades too. And perhaps the air around us is an image of this, making day and night one after the other, bringing on life and death and sleeping and waking.

Zeller, ZN 805, followed Bernays in thinking that the content of the whole passage printed above derived from Heraclitus. In fact the idea of personified Nature as an objective force moulding successive generations like a moulder in clay[1] has nothing whatever in common with what we know of Heraclitus. The continuous rivers of becoming and destruction may be a reminiscence of Plato's πάντα χωρεῖ interpretation of Heraclitus' theory of natural change, an interpretation followed by Plutarch at, for example, *de E* 18, 392B, where fr. 91 is quoted; the poetical proper names are even more foreign to Heraclitus himself. The next sentence, which postulates a single cause for night and day, may betray a knowledge of frr. 57, 67, or 106, or the belief which they express; but the last sentence, while recapitulating the connexion between the two pairs of opposites mentioned in the actual quotation from Heraclitus, introduces a completely different substance, air, in a way which reminds the reader rather of Diogenes of Apollonia. Thus whatever 'Heraclitean' ideas are shown in the context subsequent to the quotation are completely derivative and valueless; they are what might arise out of certain dialogues of Plato, especially the *Theaetetus*, where Heraclitean and Orphic ideas are combined with many others to form a mixture which was never intended to be serious. Plutarch himself, of course, was a great admirer of Plato, and this sort of thing is what we should expect from him: but most authorities (e.g. Paton and Pohlenz; Ziegler in *RE*) now believe that the *Consolatio* is spurious and was written by a singularly stupid imitator of Plutarch, one, however, who had access to good collections of earlier material and may also have been acquainted with some of the Platonic dialogues. There is no reason to doubt the genuineness of the actual quotation from Heraclitus, although, as will be seen, there might be some doubt about where it ends.

The first three words of the fragment present considerable difficulties. The majority manuscript evidence is for τ' ἔνι not γ' ἔνι.

[1] There is probably a reminiscence here of the story of Prometheus moulding men out of clay; cf. e.g. Pausanias x, 4, 4.

Wilamowitz, *Hermes* 62 (1927) 276, accepted the latter reading and explained it as a corruption of γένει, which would be a post-Aristotelian gloss modifying or explaining ταὐτό: these opposites are not precisely identical, but are of the same class. If this is the case γ' ἔνι may be omitted from the fragment; so also Gigon 90. Reinhardt, *Hermes* 77, 242 n. 2, explained γ' ἔνι as a corruption from γε δή, a combination of particles used frequently by Plato and sometimes by Plutarch. But how could the author of the *Consolatio* have inserted these particles in the quotation after an introduction like καὶ ᾗ φησιν Ἡράκλειτος? If this last phrase had followed and not preceded ταὐτό, then pseudo-Plutarch might well have supplied the particles, in an emphatic sense, to stress the appositeness of his quotation. As it is, γε δή could only belong to Heraclitus. This is not in itself impossible, for the combination appears in Herodotus and Thucydides as well as Homer, with a force which would be suitable here: see Denniston *Greek Particles* 245 (2) and 246 (4). Yet the corruption to γ' ἔνι from γε δή is perhaps not such a probable one as Reinhardt suggests; and in any case unless τ' ἔνι can be discredited it should perhaps be given preference over γ' ἔνι as the *lectio difficilior*. If τ' is accepted, then as Diels pointed out we must assume that another, related sentence preceded this one, at any rate in pseudo-Plutarch's source. It may be that the connective belonged to Heraclitus himself; it does not look like the sort of connexion which would be supplied in a compendium. ἔνι, from Homer onwards, can stand for ἔνεστι or ἔνεισι; it is probably a strengthened form of the preposition ἐν (cf. Wackernagel *Vorlesungen über Syntax* II, 166), with -ι as a verbal rather than a locative suffix, and not a syncopation of the full form of the verb. At all events it seems to be used exactly as if it were a verb: either with a dative, meaning 'is in', e.g. ἔνι κήδεα θυμῷ, *Il.* XVIII, 53; or absolutely, meaning 'is present', e.g. οὐκ ἔνι στάσις, Aesch. *Persae* 738. Other meanings such as 'is possible' are out of the question here, and in any case are not found in early prose contexts. Diels assumed that ἡμῖν must be understood, and translated in *VS*4: 'Und es ist immer ein und dasselbe was in uns wohnt.' But it is surely simpler to take ἔνι to mean merely 'is present'. In this case nothing outside the sentence has to be understood, though the opposites mentioned obviously apply to men. This is a possible sense, and it is perhaps best to accept it. H. Fränkel, according to DK ad fr.,

wanted ἔνι to mean just 'is'. This would be very convenient, but I know of no case in which it is used merely in a copulative sense. Bernays, like Diels, felt that ἔνι must have a dative, and emended to ταὐτῷ: I agree with Zeller that this does not accord well with τάδε γὰρ μεταπεσόντα κτλ., on which see below. Other proposed emendations, including Bywater's ταὔτ' εἶναι, have been somewhat futile.

The next textual difficulty is the occurrence of the article in all mss. before ἐγρηγορός, and in some mss. before καθεῦδον, but before no other of the neuter participles. Zeller and Diels boldly printed τό before these two participles and not before the four others: this is indeed what the ms. tradition suggests. Admittedly Φ and Π (except for E) omit the article in the second case: but the evidence of the Planudean group is by no means always the most reliable. It is, of course, quite out of the question for Heraclitus to have used the article before one opposite of a pair, and not before the other one: the fact that the article is found in all mss. before one opposite suggests strongly that it also occurred before the other, and we must accept the evidence of the mss. which preserve τό here as well. There was, of course, no incentive for a copyist to supply articles for one pair of opposites and not the others; nor can the first and universally testified τό easily be a corruption from any other word. But can Heraclitus have used the article for one pair of participles, and not for the others? Most editors now think not, and, like Kranz in DK, drop the τό before ἐγρηγορός. Yet if one considers Heraclitus' use of the article in other fragments it seems possible that he did not apply it consistently in this case: some anomalies may be due to an inaccurate tradition, but this cannot account for all. Thus in frr. 115, 118, no article is used before ψυχή, but in fr. 98 we find αἱ ψυχαὶ ὀσμῶνται.... In fr. 120 we should expect an article before οὖρος, which is parallel with ἡ ἄρκτος. Other variations of usage in the same sentence are fr. 90 (probably), πυρὸς ἀμοιβὴ τὰ πάντα καὶ πῦρ ἁπάντων..., and fr. 101 a, ὀφθαλμοὶ γὰρ τῶν ὤτων.... In two startling cases the article is omitted before an adjective used as a substantive: fr. 18 ...ἀνέλπιστον οὐκ ἐξευρήσει, and fr. 108 ...ὅτι σοφόν ἐστι πάντων κεχωρισμένον. But perhaps the closest parallel with the present case is provided by fr. 126 (see p. 150), which seems to be preserved in an original form, though only by Tzetzes: τὰ ψυχρὰ θέρεται, θερμὸν ψύχεται, ὑγρὸν αὐαίνεται,

καρφαλέον νοτίζεται. That Heraclitus used neuter participles as substantives either with or without the article might also be indicated by fr. 8D, τὸ ἀντίξουν συμφέρον, compared with fr. 51, οὐ ξυνιᾶσιν ὅκως διαφερόμενον ἑωυτῷ συμφέρεται. In view of this evidence the use of the article for the central pair of opposites in fr. 88 may be accepted; it was probably not intended to suggest a special distinction between this pair and the others, though, as will be seen, there is a distinction.

Wilamowitz, *loc. cit.*, declared that the quotation from Heraclitus ended at γηραιόν and that the following sentence is an appended explanation by a later source, presumably the author of the *Consolatio*. Certainly the word πάλιν is unnecessary to the sense and looks like a later addition; ταῦτα instead of a balancing τάδε is surprising, and might also be due to a later alteration, though it may equally be maintained that such a departure from exact antithesis is a sign rather of the archaic style. The sentence as a whole has the appearance of relatively early origin. μεταπίπτειν, although it continued to be used in Κοινή, has respectable Presocratic parallels in Melissus fr. 8 (four times), Diogenes of Apollonia fr. 2, and Democritus frr. 9, 101, 191. The fragment of Melissus is extraordinarily important: in it he accepts the usual Eleatic proofs, outlined in previous fragments, that there is a single, unchangeable Being. For the sake of argument he admits that there could be a plurality of existents if each unit of this plurality had the qualities which he and other followers of Parmenides attributed to the One, the chief among which was that it did not change (and so become involved in not-being). The only advantage of admitting the possibility of a plurality of existents is that the evidence of our senses tells us that there is such a plurality. Yet our senses also tell us that the several components of this plurality, even the apparently most stable ones, all eventually undergo change, and some of them are in a continuous process of change. This, of course, contradicts the agreed Eleatic premise that what exists cannot undergo change. Therefore on this point the evidence of the senses is fallacious; therefore it is to be presumed fallacious in its presentation of a plurality of existents, too. This neat piece of argument seems to contain references to previous physical systems which stressed change between opposites; in particular, Heraclitus seems to be in question; and since he undoubtedly stressed the inevitability of eventual physical change for all forms of matter

(a concept which was automatically assumed by the Milesians), if not the continuity and universality of this process, he was a peculiarly relevant example for Melissus to choose. We cannot be certain that there are specific references to him in the fragment; but the mention of the change between hot and cold (cf. fr. 126), and in particular that between life and death *and death and life*,[1] as well as the repetition of the verb μεταπίπτειν (as also of ἑτεροιοῦσθαι, which does not occur in the extant fragments of Heraclitus; but cf. ἀλλοιοῦται in fr. 67), tend to suggest that Heraclitus, and in particular this fr. 88, are referred to. The opposition πυκνόν–ἀραιόν may be pointed particularly at Anaximenes. The fragment of Melissus (preserved by Simplicius, *de caelo* 558, 19 Heiberg) is as follows (possible references to Heraclitus are underlined): μέγιστον μὲν οὖν σημεῖον οὗτος ὁ λόγος, ὅτι ἓν μόνον ἔστιν· ἀτὰρ καὶ τάδε σημεῖα· εἰ γὰρ ἦν πολλά, τοιαῦτα χρὴ αὐτὰ εἶναι οἷόν περ ἐγώ φημι τὸ ἓν εἶναι. εἰ γὰρ ἔστι γῆ καὶ ὕδωρ καὶ ἀὴρ καὶ πῦρ καὶ σίδηρος καὶ χρυσός, καὶ τὸ μὲν ζῶον τὸ δὲ τεθνηκός, καὶ μέλαν καὶ λευκὸν καὶ τὰ ἄλλα ὅσα φασὶν οἱ ἄνθρωποι εἶναι ἀληθῆ, εἰ δὴ ταῦτα ἔστι καὶ ἡμεῖς ὀρθῶς ὁρῶμεν καὶ ἀκούομεν, εἶναι χρὴ ἕκαστον τοιοῦτον οἷόν περ τὸ πρῶτον ἔδοξεν ἡμῖν, καὶ μὴ μεταπίπτειν μηδὲ γίνεσθαι ἑτεροῖον, ἀλλὰ ἀεὶ εἶναι ἕκαστον οἷόν πέρ ἐστιν. νῦν δέ φαμεν ὀρθῶς ὁρᾶν καὶ ἀκούειν καὶ συνιέναι· δοκεῖ δὲ ἡμῖν τό τε θερμὸν ψυχρὸν γίνεσθαι καὶ τὸ ψυχρὸν θερμὸν καὶ τὸ σκληρὸν μαλθακὸν καὶ τὸ μαλθακὸν σκληρὸν καὶ τὸ ζῶον ἀποθνήσκειν καὶ ἐκ μὴ ζῶντος γίνεσθαι, καὶ ταῦτα πάντα ἑτεροιοῦσθαι καὶ ὅ τι ἦν τε καὶ ὃ νῦν οὐδὲν ὁμοῖον εἶναι, ἀλλ' ὅ τε σίδηρος σκληρὸς ἐὼν τῷ δακτύλῳ κατατρίβεσθαι ὁμουρέων, καὶ χρυσὸς καὶ λίθος καὶ ἄλλο ὅ τι ἰσχυρὸν δοκεῖ εἶναι πᾶν, ἐξ ὕδατός τε γῆ καὶ λίθος γίνεσθαι· ὥστε συμβαίνει μήτε ὁρᾶν μήτε τὰ ὄντα γινώσκειν. οὐ τοίνυν ταῦτα ἀλλήλοις ὁμολογεῖ. φαμένοις γὰρ εἶναι πολλὰ καὶ ἴδια, καὶ εἴδη τε καὶ ἰσχὺν ἔχοντα, πάντα ἑτεροιοῦσθαι ἡμῖν δοκεῖ καὶ μεταπίπτειν ἐκ τοῦ ἑκάστοτε ὁρωμένου. δῆλον τοίνυν ὅτι οὐκ ὀρθῶς ἑωρῶμεν οὐδὲ ἐκεῖνα πολλὰ ὀρθῶς δοκεῖ εἶναι· οὐ γὰρ ἂν μετέπιπτεν εἰ ἀληθῆ ἦν· ἀλλ' ἦν οἷόν περ ἐδόκει ἕκαστον τοιοῦτον. τοῦ γὰρ ἐόντος ἀληθινοῦ κρεῖσσον οὐδέν. ἢν δὲ μεταπέσῃ, τὸ μὲν ἐὸν ἀπώλετο τὸ δὲ οὐκ ἐὸν γέγονεν. οὕτως οὖν, εἰ πολλὰ εἴη, τοιαῦτα χρὴ εἶναι οἷόν περ τὸ ἕν. (The mss. have ὁμοῦ ῥέων, and ἀΐδια not ἴδια.)

[1] Note that this comes under the heading δοκεῖ δὲ ἡμῖν: so it is probably a popular belief rather than a technical philosophical doctrine. On such beliefs see p. 147f. below.

If Melissus fr. 8 does refer to Heraclitus the genuineness of τάδε γὰρ μεταπεσόντα κτλ. in fr. 88 receives some confirmation. Reinhardt, *Hermes* 77 (1942) 242 n. 2, argued that the author of the *Consolatio* would not have supplied these words: for his introduction of the quotation shows that he was thinking of opposites being immanent in the same subject, not succeeding and replacing each other; the kind of succession implied in the image of the successively moulded clay models, or the rivers of birth and destruction, is the succession of immanent forms in a common substratum rather than the naïvely conceived changes implied by μεταπεσόντα. In addition, Gigon 90 is probably right in maintaining that γάρ would not be found in the following sentence in pseudo-Plutarch, as well as in τάδε γὰρ μεταπεσόντα κτλ., if both sentences alike were by the same author: not that γάρ in successive clauses is of itself unusual provided that the clauses have the same reference (Denniston *Greek Particles* 64f.; cf. e.g. Heraclitus fr. 114), but here the introduction of the not entirely relevant image of the clay figures is completely different in character from the concise explanation of the previous assertion offered by τάδε γὰρ μεταπεσόντα κτλ. The addition may, however, have been made before the *Consolatio*. Gigon observes that the present case is a rare example, at an early stage of prose, of a simple and deliberate logical explanation of the grounds on which a preceding general assertion has been made. Heraclitus does not elsewhere, it is true, give such a plain indication of the justification for his generalizations (fr. 85, for example, is not a completely parallel case): whether this in itself is enough reason for denying the authenticity of the γάρ clause must be decided by each reader for himself; I have conservatively accepted it as part of the fragment, since I do not consider Heraclitus incapable of such logical schematization, rare though it may have been in his day.

The three pairs of opposites named (the living–the dead, the waking–the sleeping, the young–the old) are all conditions of living creatures—in this case, presumably, of human beings in particular. The substantival use of the participles does not simply imply the distinction of certain qualities; rather, Heraclitus is looking at man simply as an object of a certain kind at a certain time, to the exclusion of other possible aspects. Thus, whether or not the definite article is accepted for the middle pair, it is strictly correct to translate 'the

living thing and the dead thing, the waking thing and the sleeping thing', and so on. Perhaps, rather than of man regarded solely as a living object, the concept is that of the living element, the sleeping element, and so on: the important point being that the neuter participles should be taken to represent objects fully existent in their own right, and not merely (as young and old are for us) relative qualities. Certainly ζῶν καὶ τεθνηκὸς κτλ. cannot be predicates: this would make sense—'the same thing is present (persists) as living and dead, waking and sleeping, young and old'—, but asserts that there is a common substratum of change, and makes no explicit identification or unification of opposites which attach themselves to this substratum. This does not accord at all with the explanation which follows (which is an explanation of why the opposites themselves are the same), nor indeed is the assertion of a persistent substratum likely to have been made in this somewhat indirect way by Heraclitus. The nearest he approaches to such an assertion is fr. 67. The acceptance of Bernay's reading ταὐτῷ would involve a similar sense, although here the participles would be (as they surely are) substantival. If ἔνι is correct, as we take it to be, then ταὐτό is best explained as predicative, and the full sense will be something like this: 'As the same thing is present [sc. in the same object, a man, at different times] the living element and the dead element, the waking element and the sleeping element, the young element and the old element: these seemingly opposed things are the same, because they replace one another, and can be replaced by no other kind of thing.' ἔνι does certainly imply a subject (which need not be specified) in which, and in no other, each extreme occurs. Logically this implication is necessary—not so much in the case of the examples quoted in this fragment, which are by their nature restricted to a single genus, namely, living creatures, but in the case of other pairs of opposites which are connected by the same rule of inevitable succession. For example, wet and dry are opposites of this type (cf. fr. 126 below), but their connexion would not, for Heraclitus, be adequately demonstrated by observing that dry (and hot) weather tends to produce undue moisture in the human body. Apart from this, the simple copula ἐστί would have achieved the same results in a more direct manner.

In the case of the middle pair of opposites, waking and sleeping, the sense of the fragment is plain enough. Man alternates continuously, during his lifetime, between these two states; there are

no others of the same category; and the transition between them is more or less direct. These opposite states are inextricably connected; they are really different poles of a single continuum, waking-sleeping. They are by no means 'the same' in the sense of 'identical'; but it has already been shown that τὸ αὐτό, for Heraclitus, does not necessarily imply absolute identity, but rather unity. Some opposites—those which depend on varying standards of judgement, like 'the way up' and 'the way down'—are, in themselves, identical, and τὸ αὐτό (or μία καὶ ὡυτή) in these cases has a different connotation. But Heraclitus' general intention is to show not that all differentiations in the sum of human experience are illusory, but that they are all connected, so that there is an underlying unity. In this group and preceding ones all that is shown is that there is an essential connexion between opposites of the same genus, and not that separate genera are themselves connected. This connexion of the different genera is necessary if an over-all unity is to be demonstrated; it will be seen that Heraclitus neglects to establish this kind of connexion except in one important fragment, 67, and it is difficult to avoid the conclusion that he believed the demonstration of unity in things which were apparently most opposed to each other—that is, in opposites of the same genus—to be almost sufficient proof of an all-embracing unity: if waking and sleeping are 'the same' and hot and cold are 'the same', then surely there will be no lack of essential connexion between waking and the hot. To modern logicians this is an intolerable deduction. Yet it is the kind of logical leap that tended to be made, at any rate before Plato: Pythagoras or his immediate followers probably made it when, having observed that number was an essential element of such an influential and (to the naïve judgement) such an unnumerical thing as music, they proceeded to the conclusion that number was an essential element of all things. However, fr. 67 (and the possibility that other assertions of the connexion between other classes of opposites have not survived) prevents us from definitely attributing this error to Heraclitus; though it will be shown in the discussion of fr. 67 (pp. 199 ff.) that the linking together of different classes of opposites was not made in the same methodical way as the many demonstrations of the connexions between opposites of the same category.

So far we have considered only the opposition waking-sleeping. Here it is obviously true that 'this extreme changes round and is

that; that one changes round and is this'. In the course of a lifetime men have many opportunities to learn this, and it becomes obvious that these two opposed states are variations in a single continuum which we should call consciousness. The other oppositions specified in the fragment are different in one important respect: the change from one extreme to the other is commonly acknowledged and confirmed by experience, but the change in the reverse direction is not. Death appears to supervene upon life, and the old upon the young: but it is not the case that, in the same obvious manner and in the same subject, death is followed by life and the old by the young. Perhaps Heraclitus intended these two oppositions to be different in kind from the waking-sleeping opposition; the inevitable succession of one extreme by the other, even if the reverse process does not take place, indicates quite well enough for Heraclitus' purposes that the two extremes are inextricably connected. The objection to this simple explanation is provided by the γάρ clause, which asserts quite definitely, of all the opposites mentioned, that the change takes place in both directions: the living, for example, changes round and becomes the dead, and the dead likewise becomes the living. It is true that Wilamowitz doubted the authenticity of this clause, perhaps with reason; yet it is unnecessary to rely entirely upon this clause alone, for there are some other extant fragments which assert some kind of reciprocal movement between death and life. Frr. 15 and 48 may hint at this connexion, but they do so in symbolical terms. Frr. 36 and 76D (of which the latter, as will be seen, is probably only a later conflation of the former with fr. 62) use the word θάνατος to describe the passage of one basic form of material into the other, e.g. (from fr. 36) . . .ὕδατι δὲ θάνατος γῆν γενέσθαι, ἐκ γῆς δὲ ὕδωρ γίνεται. . . . It is difficult to make a precise analysis of this strange pronouncement, but the second clause quoted seems to imply that water 'is born' from the material into which it passes on 'death', and thus that the change from 'life' to 'death', in the case of water and of other forms of matter, including ψυχή, is a reciprocal one. In fr. 62 the same reciprocity is outlined still more clearly. Hippolytus' version, certainly the most accurate of the many extant ones, is as follows: ἀθάνατοι θνητοί, θνητοὶ ἀθάνατοι, ζῶντες τὸν ἐκείνων θάνατον, τὸν δὲ ἐκείνων βίον τεθνεῶτες. On the face of it this fragment refers not to the changes of matter, and 'death' of this kind, but to human creatures and divinities; 'living their death, dying their

life' (of which the subject is apparently both 'mortals' and 'immortals'), though it may not be entirely comprehensible, at any rate implies that life follows death as death follows life. Although the fragment involves an inevitable succession, and although it is possible that the adjacent epithets of opposite sense with which it opens are intended to be identified with each other, it clearly involves special conceptions of the nature of the soul or life-principle which place it outside the class of simple assertions of the unity of opposites which succeed one another. The whole question of Heraclitus' view of the soul as fire, and of the way in which it passes from 'life' to 'death' and vice versa, lies outside the range of this study and must be postponed until a later occasion: but see in the meantime my article in *AJP* 70 (1949), 384ff., and the brief reference to popular beliefs on p. 147f. below. Enough has been said here to show that he could have assumed in this fr. 88 that living and dead were reciprocal extremes of the type of waking and sleeping. Such a reciprocity is adduced to illustrate a quite different truth, namely, the unity of opposites in general; it would be misleading to treat the fragment, as, for example, Gigon does, as a *primarily* anthropological assertion.

That the 'dead' and 'living' referred to in this fragment may be intended to apply to the changes of material in the living human body, as perhaps in fr. 36, might conceivably be indicated by Plutarch *de E* 18, 392C (a passage cited as relevant to fr. 88 by, for example, Zeller, ZN 806 n., and Walzer) ἀλλ' ἡμεῖς ἕνα φοβούμεθα γελοίως θάνατον, ἤδη τοσούτους τεθνηκότες καὶ θνήσκοντες. οὐ γὰρ μόνον, ὡς Ἡράκλειτος ἔλεγε, πυρὸς θάνατος ἀέρι γένεσις καὶ ἀέρος θάνατος ὕδατι γένεσις (= one version of fr. 76D), ἀλλ' ἔτι σαφέστερον ἐπ' αὐτῶν ἡμῶν φθείρεται μὲν ὁ ἀκμάζων γινομένου γέροντος, ἐφθάρη δ' ὁ νέος εἰς τὸν ἀκμάζοντα, καὶ ὁ παῖς εἰς τὸν νέον, εἰς δὲ τὸν παῖδα τὸ νήπιον. ὁ δὲ χθὲς εἰς τὸν σήμερον τέθνηκεν, ὁ δὲ σήμερον εἰς τὸν αὔριον ἀποθνήσκει. μένει δ' οὐδεὶς οὐδ' ἔστιν εἷς, ἀλλὰ γιγνόμεθα πολλοί....The latter part of this may reproduce the ideas of Heraclitus; the chief reason for thinking so is that the instance of 'today' and 'tomorrow' occurs in a passage of Scythinus cited by Stobaeus, *Ecl.* 1, 8, 43 (1, p. 108 Wachsmuth) τὸ γὰρ αὔριον ἡ μὲν τῷ ἔργῳ χθὲς ἔστιν, τὸ δὲ χθὲς αὔριον. These and the preceding words have been remodelled into trochaic verse by Wilamowitz, and classified by Diels and Kranz as an imitation of Heraclitus (DK 22C3, 2). It

is true that Diog. L. IX, 16 states that the iambic poet Scythinus attempted to express the argument of Heraclitus in metre; but there is no reason to think that these particular words as quoted by Stobaeus refer particularly to a Heraclitean doctrine, except that they appear also in the passage of Plutarch quoted above, just after a sentence specifically attributed to Heraclitus. The argument has thus become circular. It must be added, though, that a statement to the effect that our bodies change from day to day occurs in Epicharmus (fr. 2 in DK), who possibly referred to beliefs of Heraclitus (though this is intrinsically improbable, and Heraclitus is certainly never mentioned by name). The idea that the material of our body is constantly being renewed and that part of it is being destroyed or 'dying' all the time may well have been a common one at quite an early period in Greece, and have become a popular witticism or trope. It appears doubtful whether it should be connected specifically with Heraclitus, though it would not be surprising if it were so connected in the fourth century B.C. and later, for it fits in well with the πάντα χωρεῖ interpretation of Heraclitus' views on natural change, which was certainly accepted by Plutarch (see on fr. 91, p. 381). Nevertheless, it cannot be denied that the Plutarch passage explains how the young could succeed the old, and the dead the living, especially if 'dead' and 'living' are taken to refer to changes of material and not changes involving the whole organism. Specific objections against this interpretation, in addition to the general objection of lack of evidence, are twofold. First, the opposition waking-sleeping undoubtedly refers to the whole organism and not to separate constituents. Secondly, the kind of change involved in this idea of the continuous 'death' of the material of the body is continuous and gradual change, while the changes referred to in the fragment are more probably to be regarded as sudden ones, in the sense of the German 'umschlagen'. So much is perhaps indicated by the use of the verb μεταπίπτειν, which tends to emphasize the accomplished change and not the process; an object is first in one state, then (after a period of which the length is here irrelevant) in a completely different state. In words like μετατρέπειν, μεταστρέφειν the prepositional prefix μετα- produces an idea of 'reversal': whether this is derived from the original sense of μετά, perhaps 'in company with' or 'between', or from the derived temporal idea of succession, need not be discussed here. In these cases, of course, the verbal roots

themselves add to the idea of change from one extreme to the other: πίπτειν, as much as τρέπειν and στρέφειν, implies a sudden and immediate rather than a gradual motion; but in the last two cases a change of direction is more explicit. When Heraclitus used the word τροπαί in fr. 31, to describe the separate stages of transformation of fire, he was evidently not thinking of the *process* of these changes (rain, evaporation, etc.), so much as of the end-results, sea or earth; see p. 329. That μεταπίπτειν is habitually used with this sense of sudden complete reversal is indicated especially by phrases like μεταπεπτώκει τὰ πράγματα (Lysias 20, 14; cf. Thuc. VIII, 68, Plato *Epistle* 7, 325 A), meaning 'a revolution had occurred', and, at Plato *Phaedrus* 241 B, ὀστράκου μεταπεσόντος, meaning 'when the sherd had fallen with the other side up'.

Two other possible explanations of the reciprocal change between the dead and the living, the young and the old, still remain; or rather, two variations on the same explanation. Plato in the *Phaedo* (70cff.) refers to a παλαιὸς λόγος (by which phrase he usually characterizes those beliefs about the soul which are associated with the names of Pythagoras and Orpheus), to the effect that πάλιν γίγνεσθαι ἐκ τῶν ἀποθανόντων τοὺς ζῶντας. Plato goes on to generalize this belief into the assertion that all opposites come into being from and pass away into opposites—a conclusion with which Heraclitus would not have quarrelled. One of the instances adduced by Plato is that of sleeping and waking, which inevitably make way for each other and for nothing else. It is possible that Heraclitus was thinking of some such quasi-religious belief about the soul when he made this statement. On the other hand, a similar belief, but one devoid of religious associations and not connected with ideas of purification and merit, was evidently held by ordinary people in Greece as it still is in many undeveloped societies today: the belief that the grandchild is in some way a continuation of the life of the grandparent, after whom he is often named. In this simple way life may be said to succeed death, and the infant the old man. Or simpler still: from whence are babies born?—from nothing, from a condition of not-life, which could be named 'death'. This idea alone may explain the fragment. It must not be forgotten that Melissus fr. 8, quoted above, mentions the same succession without special comment: τὸ ζῶον ἀποθνήσκειν καὶ ἐκ μὴ ζῶντος γίνεσθαι. This, like other parts of that fragment, may be a direct reminiscence

of Heraclitus; but Melissus is describing illusions common to mankind in general—note the first person plural—and would scarcely cite a technical theory held by Heraclitus alone. Of course, he may have read a general sense into what was originally intended to have special significance.

There is one other fragment in which two of the pairs of opposites specified in fr. 88 recur: this is fr. 26. Here the motive is not to demonstrate that these opposites are the same, but to show how a man, when he is asleep, is 'in contact with' death though he is still living: ...ζῶν δὲ ἅπτεται τεθνεῶτος εὕδων, ἐγρηγορὼς ἅπτεται εὕδοντος (Wilamowitz's text). Sleep resembles death in many ways, and to Heraclitus was an intermediate stage towards it. If it were a question in fr. 88 of these two oppositions alone, then we should be justified in explaining that fragment in terms of fr. 26—a form of death (sleep) succeeds the fully living (waking) state, and vice versa, even when we are alive. But the opposition of the young and the old cannot possibly be interpreted along these lines. This being the case it must be accepted that fr. 88 refers on the one hand to observed successive states of the living body, namely, sleeping and waking, and on the other to a conviction that the soul, after death, becomes 'alive' and young again. The reference is most probably to popular belief, for example, that children and especially grandchildren continue one's own life and renew it; or to the Orphic particularization of this belief, or to Heraclitus' own views of θάνατος as involving merely the change from one kind of material to another.[1] The primary point of the fragment is not in doubt: that the oscillation between these opposed states in the anthropological sphere indicates that the opposition, in each genus, is in fact a connexion and a unity.

[1] The soul itself is a form of fire, and its 'death', in the above sense, involves a new becoming—either as water (cf. fr. 36), or, in the case of souls of which the fiery nature has not been impaired by death, as another form of fire: cf. especially fr. 24 and the account of it in *AJP* 70 (1949) 384 ff.

126

(39 B)

Tzetzes, Scholia ad *Exeg. in Iliadem*, p. 126 Hermann ὁ παλαιὸς γὰρ Ἡ⟨ρά⟩κλειτος ὁ Ἐφέσιος ἐκαλεῖτο δεινὸς διὰ τὸ τῶν λόγων αὐτοῦ σκοτεινόν· **τὰ ψυχρὰ θέρεται, θερμὸν ψύχεται, ὑ⟨γρὸν⟩ αὐαίνεται, καρφαλέον νοτίζετ⟨αι⟩.**

For the ancient Heraclitus the Ephesian was called clever through the obscurity of his words: Cold things warm themselves, warm cools, moist dries, parched is made wet.

This fragment is preserved in full, and specifically attributed to Heraclitus, only by Tzetzes. Tzetzes in this scholion distinguishes the Ephesian Heraclitus from the Homeric allegorist, whom he had mentioned in his commentary. The scholion ends with the quotation; this is introduced very abruptly to illustrate Heraclitus' obscurity in the *type* of words he used—for such must be the sense of τὸ τῶν λόγων αὐτοῦ σκοτεινόν. Some confirmation is provided by the recurrence of a similar phrase in the fifth pseudo-Heraclitean letter: καὶ ἐν τῷ παντὶ ὑγρὰ αὐαίνεται, θερμὰ ψύχεται. The author or authors of these letters undoubtedly had access to handbooks containing extracts from Heraclitus. The use here of the word αὐαίνεται (not otherwise found after Theophrastus and the Hippocratic corpus) shows that an actual quotation is being reported. On the other hand, the occurrence of ...τὰ ξηρὰ ὑγραίνων καὶ τὰ ὑγρὰ ξηραίνων in *de victu* I, 21 has no evidential value, in spite of the fact that the author of this work at times used a Heraclitean source and was prone to imitate the style of Heraclitus: for no unusual word occurs, and the sentiment could be a normal medical one. Cure by allopathy was standard practice. Similarly there is little significance in Apuleius' repetition of the end of fr. 10 (see p. 103), after a mention of wet-dry etc., in his version of *de mundo*, c. 21: 'namque uvidis arida et glacialibus flammida...confudit [sc. natura], unumque ex omnibus et ex uno omnia iuxta Heraclitum constituit.' But change from warm to cold and back again was one of the accepted but fallacious appearances of the sense-world

according to Melissus fr. 8 (see pp. 139ff.), . . .δοκεῖ δὲ ἡμῖν τό τε θερμὸν ψυχρὸν γίνεσθαι καὶ τὸ ψυχρὸν θερμόν. It has been seen that in this fragment Melissus may have been thinking especially of Heraclitus.

αὐαίνεται is not the most conspicuous word in the fragment: καρφαλέος, which is found in Homer, occurs in prose only in the Ionic writings of the Hippocratic corpus,[1] where it appears in two of the undoubtedly earlier (fifth century) treatises at *Aphorisms* 5, 71 and *Prognostic* 2; and in Galen, doubtless in imitation of the Hippocratic usage. In poetry it occurs as late as Bianor (*A.P.* IX, 272). νοτίζειν is first used, apart from the present case, in Aeschylus fr. 44; it occurs in Plato (*Timaeus* 74C), in Aristotle, and frequently in the Anthology. θέρομαι is a Homeric word, and is not otherwise found in prose before Plato except in a probable quotation by Plutarch (*de primo frigido* 21, 954F) from Archelaus. Again, in Alexandrian and later poetry it is not uncommon. Thus three out of the four verbs used are relatively rare, and very rare in fifth-century prose: two are used in Homer. These are just the kind of words that Heraclitus preferred—unusual and picturesque, but not in themselves obscure (in spite of Tzetzes) or exclusively poetical in feeling. All of them were artificially revived in the Hellenistic period; but it is inconceivable that they are not authentic, or that any later redactor would falsify so skilfully. Further evidence for the originality of this saying is provided by the archaic inconsistency in the use of adjectives as substantives: in the first clause the adjective is in the plural with a definite article, while in the succeeding clauses the singular with no article is maintained. It is possible of course that this anomaly is not 'archaic', but is due to a faulty tradition; but fr. 88 provided evidence that Heraclitus was by no means consistent in his use of the article, while frr. 18 and 108 show that he was quite prepared to use neuter adjectives, without the article, as substantives. For the arbitrary change of number cf. fr. 10 (which, however, does not provide a complete parallel, and according to one possible interpretation does not involve such a change). That Tzetzes himself was not inclined to make up 'archaic' quotations from Heraclitus

[1] Snell, *Hermes* 61 (1926) 357 n. 1, makes the strange comment that 'καρφαλέος (Ν 409 u. ε 369) ist der Prosa sonst ganz fremd'. This is reproduced by Walzer ad fr. In fact, the earliest Hippocratic treatises provide important parallels for the language of Heraclitus.

(which he was quite well qualified to do) is shown by his scholion on Aristophanes *Plutus* 88: ὅθεν καὶ Ἡράκλειτος ὁ Ἐφέσιος ἀρώμενος Ἐφεσίοις, οὐκ ἐπευχόμενος, μὴ ἐπιλίποι ὑμᾶς πλοῦτος, ἔφη, Ἐφέσιοι, ἵν' ἐξελέγχοισθε πονηρευόμενοι. Wilamowitz correctly observed that this is 'an apophthegm in quite modern speech' (*Hermes* 62 (1927) 276): yet this 'quotation', based perhaps on the kind of silly biographical accounts used by Diogenes in his chapter on Heraclitus, is suitable material for archaization. Diels, followed by Kranz in DK, strangely accepted this as a genuine fragment (125a); Bywater wisely omitted it. Wilamowitz continued by saying that this late apophthegm is worth no more than the Letters; and it is indeed closely reproduced (but with τύχη as subject in place of πλοῦτος) in the eighth letter. Fr. 126 too, as we saw, is quoted in full by Tzetzes and probably referred to in one of the Letters, and it begins to look as though Tzetzes used a common source with the composer or composers of some of the epistles, but a thousand years later. This source seems, not unexpectedly, to have been very mixed, for fr. 126 appears to be as authentic as fr. 125a (Diels) is evidently spurious.

Snell, *Hermes* 61 (1926) 356ff., strongly contended that these oppositions are not stated in an abstract way, but that the epic words show that here as elsewhere in Heraclitus the connexion between opposites is chiefly deduced from the realm of personal experience. Words which describe the behaviour of things, and which were invented before abstract thought was practised, tend to describe those things in terms of the individual's reactions to them. Thus Heraclitus had himself observed that his body varied between hot and cold, and so on; from this he derived, not a logical principle, but a generalization about the behaviour of *things*, regarded as living entities with the power of self-change. A great deal of this is correct, and especially this warning: 'Gar zu leicht überhören wir, wie sehr seine Worte von dem Erleben ihre Kraft erhalten, und sind immer wieder versucht, seine Gegenüberstellungen als nur logische Gegensätze aufzufassen.' Strictly, perhaps, Diels' translation (now revised by Kranz to meet Snell's criticism), 'Das Kalte wird warm, Warmes kalt...', was too abstract and conceptual and wrongly suggested that 'the warm', etc., were, in our sense, mere qualities. Snell's own translation of the first clause, 'Das Kalte erwärmt sich', suggests better the vital nature of the process. The middle voice of the verb θέρομαι occurs in the anecdote related by Aristotle (*de*

part. anim. A 5, 645 a 17) about Heraclitus warming himself at the ἰπνός. It is doubtful whether αὐαίνεται is middle or passive; only one middle use is otherwise known (future αὐανοῦμαι at Sophocles *Ph.* 954). Snell also maintains that all the opposites of Heraclitus are 'living' opposites. The list which he quotes does not include any which are not human affections or activities; but certainly winter-summer (fr. 67) and day-night (frr. 67, 57) do not come in quite the same class, not to mention the way up-the way down (fr. 60), concordant-discordant (fr. 10). Many of the most specific examples, it is true, are drawn from the field of human experience, and this is a valuable observation; yet it should not be applied beyond its due limits.

The two pairs of opposites which, as a matter of common experience, change into each other are given by themselves without comment. It must be the reciprocity of such changes that is primarily stressed, though it is conceivable that the fragment asserts the generality of change: some things are growing warmer, others cooler, all the time; this indicates the constancy and balance of change in the cosmos. It will be seen later that Heraclitus emphasized the importance of μέτρον in physical change: it could be that the balance of one process against the opposite one, in these instances, is part of an illustration of this measure (so also Vlastos, *CP* 42 (1947) 165). The retention of the same root, when noun is changed into verb and vice versa, in the first pair of clauses if not in the last (where the variation must be purely artistic), shows that an exact balance between each side of the process was involved. Yet this form is equally necessary if the fragment is simply meant as an example, less concretely expressed than fr. 88, of the *single* quality of every continuum of change between extremes. Hot turns into cold, cold into hot; wet turns into dry, dry into wet: therefore hot is not essentially different from cold nor wet from dry. This shows up the essential unity of the continuum even more clearly, perhaps, than the succession of opposite extremes like life and death in fr. 88: there the changes implied by μεταπεσόντα were instantaneous ones; here the verbs imply a gradual rather than a sudden alteration, as is appropriate to quantitative changes in the strict sense. Probably Heraclitus was not consciously aware of the distinction.

The mention by Heraclitus of these four opposites has given rise to some very bold suppositions. Gigon 99 wrote: 'Man kann kaum Frg. 126 für Heraklit beanspruchen und zugleich die Vier-Elementenlehre ihm absprechen'. Reinhardt, *Parmenides* 223, drew the following conclusion from the fragment: 'Heraklit kennt bereits die in der späteren Physik kanonischen vier Qualitäten: θερμόν, ψυχρόν, ξηρόν, ὑγρόν.' Gigon used the saying as evidence for accepting air as Heraclitean in the almost certainly Stoic-influenced fr. 76D; Reinhardt held that no one can have known of the four elements as early as the traditional date of Heraclitus, therefore this date must be wrong and he actually was younger than Parmenides. So much is fantasy: let us consider the facts. Heraclitus mentions here four very common opposites, which for him were things themselves; the first 'opposite' is τὰ ψυχρά, which merely means 'the cold things', i.e. cold things in general. The number now changes to the singular, and the definite article is dropped, but the sense is surely similar: as cold things tend (eventually) to become warm, so do warm things become cold. These two oppositions, warm-cold and dry-moist, evidently occupied a special place in the system of, for example, Anaximander, who held that opposites were separated out of an original indefinite substance, the ἄπειρον: hot and cold were the first pair to appear (DK 12 A 10, pseudo-Plutarch *Strom.* 2 φησὶ δὲ τὸ ἐκ τοῦ ἀιδίου γόνιμον θερμοῦ τε καὶ ψυχροῦ . . . ἀποκριθῆναι). As for the opposition dry-moist, Aristotle at *Meteor.* B 1, 353 a 32 ff. discusses some archaic opinions about the nature of the sea, and especially the common view according to which the earth was originally surrounded by moisture, but this was dried up by the sun, the sea being the remnant. According to Alexander's comment on this passage Anaximander and Diogenes held this theory. These are only isolated examples: it is obvious that in any empirical cosmological analysis these two oppositions will occupy a primary position. They do not appear in the Pythagorean συστοιχίαι or in the examples of opposites mentioned by Aristotle in relation to Alcmaeon, because the physical world and cosmology are not there specifically in question. Nor, it may be added, is there evidence for thinking that Heraclitus, in this fragment, intended these opposites to have a primarily cosmological significance: yet even in the extant fragments so many different oppositions are cited that it is scarcely surprising if these two also appear, perhaps with a purely general application. It is quite possible, as Snell suggested, that their special force lies in the fact that they, like hunger and satiety and other affections, are directly experienced by the human body.

It was Empedocles who, in fr. 6, first formally declared that fire, air, earth and water were the four elemental or irreducible kinds of matter, the τέσσαρα...πάντων ῥιζώματα. It is possible that in so doing he was simply attaching to each of the four most physical opposites the appropriate specific cosmic mass. There is no real evidence for this, but a successor to his medical interests and another western Greek, Philistion of Locri, did clearly associate specific δυνάμεις with the four 'elements' (as they later became known): Anonymus Londinensis XX, 25 Φιλιστίων δ' οἴεται ἐκ δ̄ ἰδεῶν συνεστάναι ἡμᾶς, τοῦτ' ἔστιν ἐκ δ̄ στοιχείων· πυρός, ἀέρος, ὕδατος, γῆς. εἶναι δὲ καὶ ἑκάστου δυνάμεις, τοῦ μὲν πυρὸς τὸ θερμόν, τοῦ δὲ ἀέρος τὸ ψυχρόν, τοῦ δὲ ὕδατος τὸ ὑγρόν, τῆς δὲ γῆς τὸ ξηρόν. In the much earlier fragment of Heraclitus, however, there is no mention either of the four 'elements' (in so far as he thought of cosmological forms of matter, he thought of three only: cf. fr. 31) or of basic powers or qualities. This last conception was indeed quite foreign to him, and belongs to a period when more advance had been made in the distinction between an object and what we call its attributes—a distinction to which medical science contributed much. He simply mentioned the four opposites which might occur most naturally to anyone who decided to apply this type of analysis to, say, changes of climate or his own physical sensations. The only problem is what the mention of these opposite things was intended to demonstrate. This must remain undecided in default of other evidence, but I have tried to suggest that it is best taken as another example of the fact that opposites, whether absolute or relative, change into each other, and thus form, in spite of their apparent differentiation, an essential unity.

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(35 B)

Hippolytus *Refutatio* IX, 10, 2 (p. 242 Wendland) τοιγαροῦν οὐδὲ σκότος οὐδὲ φῶς οὐδὲ πονηρὸν οὐδὲ ἀγαθὸν ἕτερόν φησιν εἶναι ὁ Ἡράκλειτος, ἀλλὰ ἓν καὶ τὸ αὐτό. ἐπιτιμᾷ γοῦν Ἡσιόδῳ, ὅτι ἡμέραν καὶ νύκτα ⟨οὐκ⟩[1] οἶδεν· ἡμέρα γάρ, φησί, καὶ νύξ ἐστιν ἕν, λέγων ὧδέ πως· **διδάσκαλος δὲ πλείστων Ἡσίοδος· τοῦτον ἐπίστανται πλεῖστα εἰδέναι, ὅστις ἡμέρην καὶ εὐφρόνην[2] οὐκ ἐγίνωσκεν· ἔστι γὰρ ἕν** (seq. fr. 58).

1 ⟨οὐκ⟩ editio Goettingensis. 2 εὐφροσύνην cod., corr. Miller.

Therefore Heraclitus says that neither darkness nor light nor evil nor good are different, but are one and the same thing. At all events he censures Hesiod, on the ground that he does not know day and night; for day, he says, and night are one, in such words as these: Teacher of most men is Hesiod: they are sure that he knows very many things, who continually failed to recognize day and night: for they are one (*fr. 58 follows*).

I have followed the Göttingen edition in adding οὐκ before οἶδεν, because an idea corresponding with that of οὐκ ἐγίνωσκεν in the quotation is demanded by the sense; Hippolytus is unlikely to have meant that Hesiod knew (a separate) day and night (whereas in fact these had no separate existence, but were one). Even Heraclitus in the saying which follows accepts 'day' and 'night' as permissible terms. The use of the simple affirmative οἶδεν can indeed be reconciled with the sense of Heraclitus' criticism, but makes Hippolytus' introductory paraphrase unusually and untypically complicated. ⟨εἰ⟩οῖδεν is just possible, as at, for example, Plato *Phaedrus* 262 A, but in this sense is unlikely in Κοινή. For ἐπίστασθαι meaning 'feel sure that', cf., for example, Herodotus III, 134 and 139. Miller's εὐφρόνην is unquestionably right.

The criticism of Hesiod is aimed, presumably, at *Theogony* 123 f.:

ἐκ Χάεος δ' Ἔρεβός τε μέλαινά τε Νὺξ ἐγένοντο·
Νυκτὸς δ' αὖτ' Αἰθήρ τε καὶ Ἡμέρη ἐξεγένοντο....

Here Night is made the mother of Day, and has indeed an essential priority; for Night, though like Erebus it is said to be an offshoot of the primal Chaos, clearly belongs to the same initial stage of non-differentiation. Day and Aither, on the other hand, belong to the first stage of differentiation. To Heraclitus the distinction symbolized by the child-mother relationship was repulsive, for day and night, like other things commonly assessed as opposites, were completely reciprocal: they represent different phases of the same process, and at no stage could night have existed independently of day as Hesiod postulated. The fragment does not tell us on what grounds night and day are considered by Heraclitus to be one. The same pair, however, is mentioned in fr. 67 as one of the pairs of contrary predicates of god. God provides the essential unity of these contraries, which have, however, and legitimately so, separate names representing superficial differences, like the different scents of θυώματα. This does not reveal whether the mode of connexion between contraries in fr. 67 is relativity or inevitable succession or either. But the other contraries named—winter-summer, war-peace, satiety-hunger—suggest very strongly that the connexion is that of inevitable succession.[1] Day always gives way to night in men's experience, and night to day: the two extremes together form a unity which is symbolized by the fact that the same word, ἡμέρα, can be used to represent either one extreme or the sum of both, i.e. the total period of 24 hours.

There is another passage in the *Theogony* concerned with day and night: at 748ff. Hesiod described how 'Night and Day address each other in their swift course, crossing the great brazen threshold; the one will go inside, the other comes out, nor does the house ever contain both of them...'. Nestle, *Philologus* 67 (1908) 534 (also ZN 803), argued that Heraclitus' criticism in fr. 57 was directed against this description as well as against *Theogony* 123f.; this view is generally repeated, for example by Kranz in DK ad fr. But there is nothing in 748ff. which could offend Heraclitus; he, too, would have agreed that day and night do not co-exist, and he would surely have applauded Hesiod's graphic account of their mutual succession. There is nothing here to suggest that day and night are different in

[1] In the case of certain opposites Heraclitus was perhaps content to recognize that they belonged to a common genus, without emphasizing their inevitable succession.

essence; this, however, is precisely what was suggested at 123f., and it must be against this passage alone, out of what remains of Hesiod, that Heraclitus inveighed. If it is argued that the offence is a trivial one, yet it must be remembered that Hesiod was indeed, like Homer but to a lesser degree, 'most men's teacher'; small inaccuracies called down great rebukes, and Homer suffered equally for the prayer about strife.

This is perhaps the right place to consider another saying, surviving possibly in two separate versions, attributed to Heraclitus, fr. 106D (120B):

(*a*) Plutarch *Camill.* 19 περὶ δ' ἡμερῶν ἀποφράδων εἴτε χρὴ τίθεσθαί τινας εἴτε[1] ὀρθῶς Ἡράκλειτος ἐπέπληξεν Ἡσιόδῳ τὰς μὲν ἀγαθὰς ποιουμένῳ τὰς δὲ φαύλας, ὡς ἀγνοοῦντι φύσιν ἡμέρας ἁπάσης μίαν οὖσαν, ἑτέρωθι διηπόρηται.

(*b*) Seneca *Epist.* XII, 7 'ideo Heraclitus, cui cognomen fecit orationis obscuritas, unus inquit dies par omni est. hoc alius aliter excepit; dixit enim parem esse horis, nec mentitur; nam si dies est tempus viginti et quattuor horarum, necesse est omnes inter se dies pares esse, quia nox habet quod dies perdidit. alius ait parem esse unum diem omnibus similitudine: nihil enim habet longissimi temporis spatium quod non et in uno die invenias, lucem et noctem....'

Reinhardt, *Parmenides* 177n. (who, by retaining μή and placing a comma after it, leaves ἑτέρωθι διηπόρηται in the air), suggested that Plutarch's idea that Heraclitus attacked Hesiod for specifying lucky and unlucky days in the *Erga* was due to Plutarch's own misunderstanding of fr. 57. Gigon 132f. refused to accept this hypothesis: Reinhardt had produced no evidence for his contention, while Hesiod was perfectly open to criticism on the new grounds as well as on those advanced in fr. 57; also Plutarch had probably read Heraclitus' work. This last assumption, let it be said once and for all, seems to be quite baseless; it is true that according to Lamprias' catalogue of his works Plutarch wrote a long treatise on Heraclitus, but so did many other earlier critics whose conclusions seem to us much less reliable than Plutarch's. It was no more necessary for an ancient scholar to have the full text of an early thinker, in order to write a book about him, than it was for Schuster or Lassalle. Admittedly Plutarch made a comparatively large number of

[1] εἴτε μὴ ὀρθῶς codd., μὴ del. Reiske.

apparently accurate direct quotations from Heraclitus; but this can be adequately explained by supposing (what is far more likely) that he had access to a good handbook or collection of sayings, of Heraclitus among others.

In fact Kranz, *Hermes* 69 (1934) 115, rightly observed that Plutarch's version is framed in a way typical of Heraclitus: οὐ γινώσκει as a form of rebuke recurs in frr. 5, 17, 86, 97, as well as in fr. 57; and the φύσις of a thing, as the correct object of understanding and analysis, is mentioned in frr. 1, 112D, 123. The two ideas are doubtless connected: to know the φύσις or constitution of an object, to be able to classify it κατὰ φύσιν, is the same as to recognize it, γινώσκειν. Kranz did not consider that Plutarch's quotation is simply a version of fr. 57, but rather that it represented a saying which originally belonged to the same context as fr. 57: yet he did not go so far as Reinhardt in assuming that the interpretation of the saying as an attack on good and bad days belongs to Plutarch himself. With this last hypothesis I agree, though not without some misgivings; for according to the scholia AT on *Il.* XVIII, 251, Heraclitus accused Homer of being an ἀστρολόγος on the grounds that he mentioned that Hector and his friend Poulydamas were born on the same night: this is counted as fr. 105D. The same criticism is repeated by Eustathius, *in Iliadem* ad loc. Bywater, however, in his note on his fr. 119, held that this criticism was nothing to do with Heraclitus of Ephesus, and mentioned Heraclides of Miletus as the possible author; one has only to glance at the doxographers to see how common was the confusion between Ἡρακλείδης and Ἡράκλειτος. I agree with Bywater that fr. 105D does not deserve to be considered as good evidence for Heraclitus; for one thing Heraclitus, and indeed any Greek of the fifth century B.C., meant by ἀστρολόγος 'astronomer' (as of Thales, in fr. 38) and not 'astrologer' in the sense of one who connects men's fortunes with the positions of the heavenly bodies (see E. Fraenkel on line 6 of the *Agamemnon*, in his edition). The seeking of astrological passages in Homer and Hesiod suggests the Stoa and, as Diels proposed, men like Crates of Mallos;[1] also Heraclitus would scarcely have weakened his main attack on the epic poets, for their failure to take account of the Logos and of the necessity of strife, by such rationalistic side issues as this. If fr. 105 is not by Heraclitus it is easier to discount Plutarch's contention that

[1] For later astrological forgeries attributed to Heraclitus cf. false fr. 139D.

Heraclitus' attack on Hesiod was rationalistic and anti-magical (and so akin to the anti-astrological tenor of fr. 105). And if Plutarch's interpretation is inaccurate then the obvious inference is that fr. 106 belongs to the same context as fr. 57. Having come so far there seems no reason why one should not assume with Reinhardt that fr. 106 is simply another form of fr. 57, instead of supposing with Kranz that it is a separate saying about the same subject. ἀγνοοῦντι could easily be a paraphrase of οὐ γινώσκοντι, and put into direct form in a past tense Plutarch's version might read: οὐκ ἐγίνωσκε φύσιν ἡμέρας ἁπάσης μίαν οὖσαν. This is not very different from the ἡμέρην καὶ εὐφρόνην οὐκ ἐγίνωσκεν of fr. 57. If instead of ἡμέρας ἁπάσης there stood ἡμέρας καὶ νυκτός (or εὐφρόνης), the two statements would be almost identical. I do not suggest that Plutarch himself was necessarily responsible for this last alteration; rather it was made in his source, and the disappearance of the idea of night diverted him from the correct interpretation of the saying. It was only too easy to alter ἡμέρας καὶ νυκτός into ἡμέρας ἁπάσης, given the ambiguity which undoubtedly existed in the meaning of ἡμέρα (either day-and-night or day as distinct from night). Perhaps τῆς ἡμέρας ἁπάσης was originally written, meaning 'the whole day', i.e. 'day-and-night'; then the article was dropped and the whole sense of the saying altered; ἡμέρας now meant the inclusive period of 24 hours (without reference to its components), and the way was open for interpretation as an attack on Hesiod's lucky and unlucky days. In some such way as this Plutarch may have been led astray.

In (*b*) the wording is quite vague, and Seneca's comments show that the interpretation of 'unus dies par omni est' was a matter of dispute among his predecessors or contemporaries. Again there is the ambiguity in the meaning of 'dies', although Seneca makes it quite clear which meaning he attributes to it in each case; only in the phrase 'nox habet quod dies perdidit' does he use the idea of day as distinct from night. Of the two interpretations mentioned by Seneca the first is too trivial to be plausible, even if one remembers that observations on physical and astronomical matters which to us seem entirely naïve may well have struck an Ionian of the early fifth century as worth making: see on fr. 120. Kranz in DK suggested that 'similitudine' in the second interpretation represented the Greek φύσει, being analogous to φύσιν in Plutarch's version; he referred to the 'polemic against Hesiod' and to his *Hermes* article

cited above, from which we may deduce that he meant the polemic of fr. 57, not the attack on lucky and/unlucky days suggested by Plutarch. Certainly the words which follow in Seneca make it clear that the latter at any rate cannot be in question: the 'similitudo' evidently consists in this, that the day (as a period of 24 hours) contains the basic units of time-measurement, night and daytime ('lucem'). There is nothing about the good or bad effects of different days. What is perhaps significant is that in both interpretations mentioned by Seneca the constitution of day (24 hours) out of daytime and night is stressed; they are the essential elements of ἡμέρα or 'dies' in the wide sense, and however much these elements vary in their proportions relative to each other, the total remains unchanged—'nox habet quod dies perdidit' (and, it may be assumed, vice versa). It may be fanciful to suggest that this concept is a vestige of a fuller and more explicit version of the saying attributed to Heraclitus, which placed the emphasis on the invariable reciprocity of night and daytime; but this is by no means impossible. As it stands, the assertion 'unus dies par omni est' does not seem to have much connexion with fr. 57. But if 'similitudine' forms part of a fuller Latin version, then the saying comes very much closer to Plutarch's φύσιν ἡμέρας ἁπάσης μίαν οὖσαν. This, as we saw, may well have been another version of fr. 57, or rather of the original saying of which fr. 57 is our best extant account. Probably Plutarch's φύσιν represents an improvement on fr. 57. If the different versions are set out below the hypothetical original version it will be seen how close they really are; two possible Greek translations of the Latin version are added, the second of which rearranges the sentence so as to make φύσις the subject.

Hypothetical original: φύσιν ἡμέρης καὶ εὐφρόνης οὐκ ἐγίνωσκεν· ἔστι γὰρ ἕν (or μίη).

Fr. 57: ἡμέρην καὶ εὐφρόνην οὐκ ἐγίνωσκεν· ἔστι γὰρ ἕν.

Fr. 106(*a*) (Plutarch): ἀγνοοῦντι φύσιν ἡμέρας ἁπάσης μίαν οὖσαν.

Fr. 106(*b*) (Seneca): unus dies par omni est...similitudine.

Possible Greek translation of fr. 106(*b*): μία ἡμέρα ὁμοία ἁπάσαις ἐστὶ φύσει.

or: φύσις ἡμέρας ἁπάσης μία ἐστίν.

In view of these similarities and the general arguments advanced above, it may be concluded that fr. 106D simply consists of two variants of an original represented by fr. 57, which criticized Hesiod for making an essential distinction between night and day: they are essentially the same, maintained Heraclitus, because they automatically succeed one another and form the two parts of a single process. Thus in yet another specific case there is seen to be a single λόγος connecting and unifying apparent opposites.

99

(31 B)

Plutarch *Aq. et ignis comp.* 7, 957 A 'Ἡράκλειτος μὲν οὖν **εἰ μὴ ἥλιος** φησὶν **ἦν, εὐφρόνη ἂν ἦν.**[1] ἔστι δ' εἰπεῖν ὡς εἰ μὴ θάλαττα ἦν πάντων ἂν ἀγριώτατον ζῷον κἀνδεέστατον ὁ ἄνθρωπος ἦν.

1 ⟨οὐκ⟩ ἂν ἦν Patin, *Heraklits Einheitslehre* 31 f.

Now Heraclitus says: If the sun did not exist it would be night. *And it is possible to say that if the sea did not exist man would be the wildest and most destitute of all creatures.*

Plutarch gives another version of this saying at *de fortuna* 3, 98 C: καὶ ὥσπερ ἡλίου μὴ ὄντος ἕνεκα τῶν ἄλλων ἄστρων εὐφρόνην ἂν ἤγομεν, ὡς φησιν Ἡράκλειτος, οὕτως ἕνεκα τῶν αἰσθήσεων, εἰ μὴ νοῦν μηδὲ λόγον ὁ ἄνθρωπος ἔσχεν, οὐδὲν ἂν διέφερε τῷ βίῳ τῶν θηρίων. It is obvious that Clement was imitating this passage when he wrote, *Protr.* 113, 3 (1, p. 80 St.), καὶ γὰρ ὥσπερ ἡλίου μὴ ὄντος ἕνεκα τῶν ἄλλων ἄστρων νὺξ ἂν ἦν τὰ πάντα, οὕτως εἰ μὴ τὸν λόγον ἔγνωμεν καὶ τούτῳ κατηυγάσθημεν οὐδὲν ἂν τῶν σιτευομένων ὀρνίθων ἐλειπόμεθα, ἐν σκότει πιαινόμενοι καὶ θανάτῳ τρεφόμενοι. The use of the quotation (unattributed, and further modernized by the substitution of νύξ for εὐφρόνη) is exactly similar to its use by Plutarch in his *de fortuna* version, and is designed to substantiate the very same point. We cannot therefore use Clement as an independent authority here. The important thing about Plutarch's second version is that it adds, perhaps as part of the quotation, the additional words ἕνεκα τῶν ἄλλων ἄστρων. Since the attribution of these words to Heraclitus would be liable to alter the whole sense of the fragment, it is important to try and decide whether they do in fact belong to him or whether they were just inserted to serve the purposes of his own sense by Plutarch. It must be admitted at once that on the evidence available it is not possible to make an absolutely certain decision one way or the other, and so the proper interpretation of this fragment must remain to some extent doubtful. I give what seems to me the more probable interpretation, based on the opinion that ἕνεκα τῶν ἄλλων ἄστρων was added by Plutarch and that the

more correct version of the fragment is provided by his quotation in *Aq. et ignis comp.* Most editors, however, Diels and Kranz among them, accept these words as belonging to Heraclitus and insert them in the version of *Aq. et ignis comp.* This version is, in other respects, obviously closer to the original than that of *de fortuna*: εἰ μή instead of the genitive absolute construction is better suited to early Ionic, and ἦν instead of ἤγομεν (which may indeed be corrupt in the text of Plutarch: note that Clement has ἦν) is simpler, and avoids the generalizing first person plural which is rare in early prose, except where personal reactions form the main point. There is a slight *a priori* probability that the doubtful words, being omitted in what is otherwise clearly the more accurate quotation by Plutarch, do not belong to Heraclitus. Now one of the difficulties in detecting insertions in Plutarch's quotations is that, on account of a stylistic preference for having his own contention in the same verbal form as that of the quotation which he is adducing to substantiate it, he tends either to reshape the quotation to fit the form of his own assertion which he already had in mind, or to adapt the expression of his thought to the previously existing form of the quotation which he is already thinking of adducing. It is sometimes impossible to detect which process has taken place. In the *de fortuna* passage this parallelism in form between the quotation and Plutarch's own assertion is certainly present, although he has lessened it somewhat by retaining εἰ μή in his own assertion (doubtless from a subconscious memory of the correct form of the quotation) and suppressing it in favour of a genitive absolute in the quotation. This is presumably due to the speed at which Plutarch must have composed his essays. The question we must now attempt to answer is as follows: is the ἕνεκα phrase in Plutarch's own assertion absolutely necessary to the sense of that assertion, or is it likely to have been added simply to complete the parallelism with the quotation? To this may be added a second, complementary, question: in the version of *Aq. et ignis comp.*, where the ἕνεκα phrase does not occur either in the quotation or in Plutarch's own assertion, could such a phrase have been added to the latter without damaging the sense, or has an original ἕνεκα phrase in the quotation been suppressed simply because it was impossible to include a relevant parallel phrase in the main assertion? To the first question the answer seems to be that ἕνεκα τῶν αἰσθήσεων, which may be translated 'as regards the senses' (i.e. if we restrict

our consideration to the senses), is absolutely essential to the point which Plutarch is trying to make, that it is reason and not any special form of sensation which distinguishes man from animals. It is perfectly possible that in formulating this point Plutarch naturally chose to use a ἕνεκα phrase without any thought of parallels with a quotation. As for the second question, it is clear that had Plutarch wanted to supply such a phrase to his own assertion about the dependency of men on the sea, in order to provide a formal parallel to the quotation, he could have done so; a phrase like ἕνεκα τῶν ἄλλων εὑρημάτων would in fact have made the sense clearer. Thus the probability is, on these grounds also, that Plutarch inserted the words ἕνεκα τῶν ἄλλων ἄστρων in the *de fortuna* passage to correspond with a ἕνεκα phrase of his own, rather than that he suppressed a part of the quotation from Heraclitus in the *Aq. et ignis comp.* passage.[1]

If ἕνεκα τῶν ἄλλων ἄστρων were to be accepted as a part of the original saying of Heraclitus then it would be necessary to interpret the fragment as a cosmological statement of the unique brightness of the sun compared with other heavenly bodies. Heraclitus undoubtedly considered this to be the case, as indeed would any man who was not blind or out of his senses: so in the fuller doxographical account in Diog. L. IX, 10, λαμπροτάτην δὲ εἶναι τὴν τοῦ ἡλίου φλόγα καὶ θερμοτάτην: the explanation is added that the other stars are further away, the moon nearer but in an impure region. Macrobius, *in Somn. Scip.* I, 20, 3, asserted that 'Heraclitus [sc. solem] fontem caelestis lucis appellat'; Gigon 79 wonders whether this does not suggest that Heraclitus used the word πηγή of the sun, as Xenophanes (fr. 30) used it of the sea. At any rate there is no reason to believe that Macrobius' source had this fragment in mind; probably the statement is simply a more vivid expression of the doxographical judgement quoted above from Diogenes. H. Fränkel, *AJP* 59 (1938) 326, compares ἐν ἁμέρᾳ φαεννὸν ἄστρον ἐρήμας δι' αἰθέρος in Pindar's first Olympian ode, but it is doubtful whether there is any significant connexion.

[1] This conclusion cannot easily be tested by a consideration of the use of ἕνεκα. It is often difficult to determine an exact significance for the word (which explains the very questionable analysis of meanings in LSJ): it is tempting to translate ἕνεκα τῶν ἄλλων ἄστρων as 'in spite of the other stars', but this will not do for ἕνεκα τῶν αἰσθήσεων, and it is probably best to envisage a meaning like LSJ s.v., I, 2, expressed by the clumsy but unavoidable phrase 'as far as regards'. ἕνεκα was occasionally employed in this way by both early and late writers.

It has been seen, however, that the ἕνεκα phrase probably does not belong to Heraclitus: we are left with the bald statement that 'if there were no sun it would be night'. This can scarcely be intended as a piece of significant astronomical observation; even if the fact is accepted that apparently obvious phenomena were worth defining at a time when so little had been objectively defined (one may compare the catalogue of points of the compass which forms Heraclitus fr. 120), it is still difficult to accept this fragment merely as a naïve observation. Patin, to escape this difficulty, ingeniously suggested that an οὐκ had been dropped from the texts of Plutarch, or rather from Plutarch's source: in this case the fragment would depend on the assertion in fr. 57 that day and night are one—the sun is the mark of the day; if there were no sun there would be no day, and if there were no day there would be no night, for day and night are the same. Few scholars have accepted this suggestion: there is no real reason for thinking that a negative has been dropped, and the sense given is very complicated; if ἡμέρα and not ἥλιος had been written it might have been possible. The connexion of this fragment with fr. 57 is correct (so Reinhardt *Parmenides* 180 n. 2; he, however, accepts the ἕνεκα phrase as authentic); once this is understood there is no need to add the negative.

The fragment as it stands clearly does not assert exactly the same as fr. 57, or rather as the argument which perhaps underlies that fragment—that day and night are 'the same' because they inevitably succeed one another. What it asserts, indirectly, is that the sun is the cause of day: without it, there would be continuous night. Thus the distinction between day and night (conditions which at first sight are essentially opposed to each other) is brought about by a single cause: these dual phenomena are the product of a single factor. Thus in yet another way the connexion between day and night is established. It is not exactly the same type of connexion as is stressed in the other fragments of this group, although the idea of a single cause for apparent opposites is not entirely separate from that of inevitable succession: the basic idea is that of variation in a continuum. Yet it must be repeated that any interpretation of this fragment remains somewhat precarious.

GROUP 6

Frr. 10, 102, 67

If opposites are essentially connected (as they have been shown to be, in different ways, in fragments of preceding groups), then the continua which they form can be regarded as either single or complex, according as the dissociation or the essential connexion of the opposite extremes in every category is more or less stressed. So too the whole sum of things (which can be analysed into combinations of the different opposites, i.e. opposed substances) can be viewed synthetically or analytically, with emphasis either on the underlying connexion between opposites or on the superficial separateness of things. God takes the synthetic view, which is the truer one: he sees all things in the cosmos as fair and right, while men analyse into opposites, fair and ugly and so on. On the other hand, all the pairs of opposites can themselves be equated with god, who stands for the connexion between things and not the more apparent variation, which is nominal and superficial though not completely unreal.

10

(59B)

[Aristotle] *de mundo* 5, 396b7 ἴσως δὲ τῶν ἐναντίων ἡ φύσις γλίχεται καὶ ἐκ τούτων ἀποτελεῖ τὸ σύμφωνον, οὐκ ἐκ τῶν ὁμοίων, ὥσπερ ἀμέλει τὸ ἄρρεν συνήγαγε πρὸς τὸ θῆλυ καὶ οὐχ ἑκάτερον πρὸς τὸ ὁμόφυλον, καὶ τὴν πρώτην ὁμόνοιαν διὰ τῶν ἐναντίων συνῆψεν, οὐ διὰ τῶν ὁμοίων. ἔοικε δὲ καὶ ἡ τέχνη τὴν φύσιν μιμουμένη τοῦτο ποιεῖν. ζωγραφία μὲν γὰρ λευκῶν τε καὶ μελάνων, ὠχρῶν τε καὶ ἐρυθρῶν χρωμάτων ἐγκερασαμένη φύσεις τὰς εἰκόνας τοῖς προηγουμένοις ἀπετέλεσε συμφώνους, μουσικὴ δὲ ὀξεῖς ἅμα καὶ βαρεῖς, μακροὺς τε καὶ βραχεῖς φθόγγους μίξασα ἐν διαφόροις φωναῖς μίαν ἀπετέλεσεν ἁρμονίαν, γραμματικὴ δὲ ἐκ φωνηέντων καὶ ἀφώνων γραμμάτων κρᾶσιν ποιησαμένη τὴν ὅλην τέχνην ἀπ' αὐτῶν συνεστήσατο. ταὐτὸ δὲ τοῦτο ἦν καὶ τὸ παρὰ τῷ σκοτεινῷ λεγόμενον Ἡρακλείτῳ· **συλλάψιες**[1] **ὅλα καὶ οὐχ ὅλα,**[2] **συμφερόμενον**[3] **διαφερόμενον, συνᾷδον**[4] **διᾷδον·**[5] **ἐκ πάντων ἓν καὶ ἐξ ἑνὸς πάντα.** οὕτως οὖν καὶ τὴν τῶν ὅλων σύστασιν, οὐρανοῦ λέγω καὶ γῆς τοῦ τε σύμπαντος κόσμου, διὰ τῆς τῶν ἐναντιωτάτων κράσεως ἀρχῶν μία διεκόσμησεν ἁρμονία.

1 συλλάψιες Lp: συλλάψει ἐς Stobaeus: συλλήψιες P: συλλήψεις (varia lectio) R 223: σύλληψις Paris 2494: συνάψιες A (post corr.) CEGT, συνάψειες A (ante corr.) (?): συνάψεις F: συνάψειας BHW (post corr.) Z Ald R 223: συνάψιας W (ante corr.): exemplar Graecum Apulei συνλαψιες vel συνλαψιαις probabiliter habuit; exemplar Latini Anonymi συλλήψει vel συλλάψει; exemplar Nicolai Siculi συνάψει ἐς; exemplar interpretis Armenii aut συνάψεις aut συνάψειας: versio Syriaca nomen, non verbum habuit. ΣΥΝΛΑΠΨΙΑΙΣ transcripsit Apuleius[B], ΣΥΝΛΤΙΨΙΑΙΣ Apuleius[V]. 2 ὅλα καὶ οὐχ ὅλα P Amb 174 Bern Vind 8 Stobaeus Apuleii transcriptio: οὖλα...οὖλα BTW Ald R 1314: οὖλα...οὖλα EF: οὖλα...οὖλα AH: ὅλου...ὅλου CG. οὐκ T R 1314: οὐχί W Ald Z: οὐχ vel οὐχ' codd. plurimi: καὶ codd., del. Zeller. 3 post συμφερόμενον add. καὶ codd., om. Stobaeus[F], Apuleii transcriptio. 4 post συνᾷδον add. καὶ EFHPW (post corr.) Z Ald Par 166, om. ABCGTW (ante corr.) Stobaeus Apuleii transcriptio. 5 post διᾷδον om. καὶ Par 166 Vind 8 Stobaeus,? Apuleii transcriptio, habent codd. cett.: om. Lorimer, Walzer.

But perhaps Nature has a liking for opposites and produces concordance out of them and not out of similars, just as for instance she brings male together with female and not each with members of the same sex, and

composes the first concord by means of opposites and not similars. Art, too, seems to imitate Nature in doing this. For the art of painting, by mixing in the picture white and black colours and yellow and red, achieves images concordant with the original; and the art of music, by mingling high and low, short and long notes, achieves a harmony in different tones; while the art of writing makes a mixture out of vowels and consonants and compounds its whole art from them. It was this same thing which was said in Heraclitus the Obscure: Things taken together are whole and not whole, something which is being brought together and brought apart, which is in tune and out of tune: out of all things can be made a unity, and out of a unity, all things. *Thus a single harmony by means of the mixture of the most opposed principles has arranged in order the structure of the whole—by which I mean of heaven and earth and the whole universe.*

The introductory passage to this quotation is reproduced above at some length, not because it is particularly relevant to the interpretation of Heraclitus' words here, but because it contains ideas which may be in some way Heraclitean. The idea that the natural world contains a ἁρμονία of opposites, and that any concordance is a concordance between opposites, is certainly one which occurred to Heraclitus. Further, Aristotle (or the compiler of the *Eudemian Ethics*) cites, just after a reference to Heraclitus, two of the instances of the necessary conjunction of opposites mentioned in this passage of the *de mundo*: *Eth. Eud.* H 1, 1235 a 25 (DK 22 A 22) καὶ Ἡράκλειτος ἐπιτιμᾷ τῷ ποιήσαντι 'ὡς ἔρις ἔκ τε θεῶν καὶ ἀνθρώπων ἀπόλοιτο. οὐ γὰρ ἂν εἶναι ἁρμονίαν μὴ ὄντος ὀξέος καὶ βαρέος οὐδὲ τὰ ζῷα ἄνευ θήλεος καὶ ἄρρενος ἐναντίων ὄντων. The indirect statement of the last sentence here shows that the citation of these instances is attributed to Heraclitus himself, though Gigon 117, for example, doubts whether this is correct on the ground that male and female do not fit into the scheme of Heraclitus' reconciliation of other oppositions. This is true; but there is no reason to disbelieve that Heraclitus may have referred to a number of common oppositions in the natural world, in order to illustrate the important part in its constitution played by obvious opposites, even if the unity of these oppositions was not such as could be proved by the kind of analysis which he adopts in the extant fragments, namely, connexion by relativity or invariable succession. The fact that the 'opposites'

(commonly so regarded) male and female were conjoined for the production of a new creature may well have struck Heraclitus as significant both of the important part played by opposites and of their necessary connexion. So also the fact that the musical scale would not exist were it not for the existence of high and low notes ('high' being here regarded as opposed to 'low', perhaps with no special reference to the octave) is another simple and obvious instance of the importance of opposites. Possibly Aristotle means by ἁρμονία 'musical concord', which we know cannot have been a meaning accepted by Heraclitus (see pp. 204, 208 f.); but to the latter the necessity for contrast and difference between successive notes, in order to make a scale or a tune, may have had implications enough (see on fr. 51: ἁρμονία in other fragments does not have a musical significance, though this may be accidental).

The other examples given in the *de mundo* passage are less apt, and there is no reason to think that they derive from Heraclitus himself; indeed, the introductory generalization 'Art imitates nature' shows that we are dealing here with Peripatetic concepts.[1] Snell in his important article on this fragment (*Hermes* 76 (1941) 84ff.; esp. p. 87 n. 1) observes that the idea of a mixture of opposites to produce a single result is foreign to Heraclitus; yet this idea is dominant both in the *de mundo* passage and in the analogous references in *de victu*. The inference is that, if in either case there is any dependence on Heraclitean sources, these sources were considerably later than Heraclitus himself and had achieved considerable divagations from his original theory. Nevertheless, the concrete examples of opposites, even if subjected to a later (and perhaps Aristotelian) interpretation, may go back to Heraclitus himself. Certainly the emphasis on the idea of a harmonious cosmos formed by the connexion and interplay of opposites, which permeates the whole of this pseudo-Aristotelian

[1] It is true that chs. 12–24 of book 1 of the *de victu*, which makes use of Heraclitean material in places, compare *men's* φύσις with various τέχναι: perhaps Socrates rather than Aristotle should be regarded as the *terminus post quem* for this kind of comparison. Yet *de victu* is conventionally dated too early (p. 27), and even here there may be Aristotelian influence. All the instances of the *de mundo* passage occur there (1, 12; 18; 23) except that from painting; thus the author of the pseudo-Aristotelian treatise cannot have been using the Hippocratic work as sole source. Actually he is very unlikely to have used it at all, and the probability is that both works depend at this point either on a later follower's expansion of Heraclitus' views on opposites, or on Aristotle.

treatise, is by no means foreign to the central conception of Heraclitus: but in the meantime it has been subjected to much restatement and remoulding, particularly in the early Stoa and then, probably, under the powerful influence of Posidonius and his followers.[1]

One of the chief difficulties of this fragment is the determination of the correct text. The apparatus given above is based upon that of W. L. Lorimer (edition of *de mundo*, Paris, Belles Lettres, 1933), and the consideration of the problems involved owes much to Snell's article cited above. The main problem is whether we should accept συλλάψιες or συνάψιες: the verbal form συνάψειας, which was accepted by Bywater and the older editors, was shown by Diels (*SB Ber* (1901) 188ff.) to have only weak ms. support, and this has become still more apparent as a result of Lorimer's much more thorough recension of the mss. Diels and Kranz accepted συνάψιες, while Lorimer prints συλλάψιες and Snell confirms this choice. That συλλάψιες is a good Ionic form was seen by O. Hoffmann, *Griech. Dialekte* III, 240; Kranz, DK ad fr., admits as much, though he claims that the word is unsuitable to the sense in this context. W. Schulze, *Festschrift f. P. Kretschmer* 220, shows that α-forms like λάψομαι were suppressed in the ms. tradition of Herodotus (the substitution of η for α being considered a correct restoration of 'Ionic' by Alexandrian and post-Alexandrian scholars), though this was the true Herodotean form. Nevertheless, a consideration of Lorimer's apparatus shows that there is strong support among the better mss. for συνάψιες: Lorimer's acceptance of συλλάψιες is presumably due largely to the support given by Stobaeus (who copied out this part of *de mundo*) and by the transcription in both mss. of Apuleius, which, confused as they are, agree in writing συνλ-. In addition, P and Stobaeus give the probably correct reading ὅλα καὶ οὐχ ὅλα, as against various kinds of confusion in many of the mss. which support συνάψιες. Snell, *op. cit.* 85 and n. 1, comments that further information on, for example, Lp is necessary in order to decide whether its reading here is significant; but he seems to be premature in suggesting that συλλάψιες was read in one of two archetypes, followed by the mss. of Lorimer's Class III (*op. cit.* 10ff.); for AET (favouring συνάψιες) also belong to this class. The superscript ν added as a correction in Lp may, as Snell remarked, mean either συνλάψιες or συνάψιες: certainly the writing of -νλ- for -λλ- (what Snell calls an 'etymologische Schreibung') was not uncommon among over-learned scribes; cf. Kühner-Blass I, 263. This presumably explains the agreement on this point of both mss. of Apuleius. Snell summarizes the general probabilities of the case in these words (*op. cit.* 85): 'Aber selbst dann verdiente συλλάψιες schon aus dem ganz äusseren Grund den Vorzug, weil die ungewöhnliche jonische Form σύλλαψις viel eher in das seit Aristoteles gewöhnliche σύναψις geändert werden konnte, als umgekehrt.' In view of all these considerations συλλάψιες may be accepted.[1]

ὅλα καὶ οὐχ ὅλα may be read with some certainty, the variants being patent and misjudged attempts to 'restore' the true Ionic forms. More important is the question of whether the succeeding pairs of opposites should be linked by καί. In the first case there is full manuscript agreement in favour of the connecting particle, except for the Latin translation of Apuleius and one of the two mss. of Stobaeus; in the second case (between συνᾷδον and διᾷδον) the mss. are about equally divided. This suggests that the addition of the two καί's represents an attempt in the tradition to establish an exact balance between the three groups of contrasted words. I have already argued under fr. 88 that this exact balance of single words (as opposed to whole phrases) is not typical of Heraclitus' style; in that fragment there is strong evidence for a variation in the use of the definite article between parallel and juxtaposed phrases. Further, in the present case there is some need for καί in order to separate ὅλα and the negative phrase οὐχ ὅλα, while there is no such need in the case of single opposed words like συμφερόμενον and διαφερόμενον. On the whole Heraclitus was sparing of inessential connexions, and cases of asyndeton are frequent: but no general rule can be established, for while formally opposed words are juxtaposed without connexion in fr. 67 (and perhaps also in fr. 62), in fr. 88 they are joined by καί.

[1] The *de mundo* was written in the first or second century A.D.: cf. W. Capelle *N.Jahrb.* 15 (1905) 529 ff. Capelle placed it in the first half of the second century, and maintained with much plausibility that it is based primarily upon the Μετεωρολογικὴ στοιχείωσις and Περὶ κόσμου of Posidonius (who of course used Aristotle's *Meteorologica* as well as Stoic sources).

[1] The occurrence of συνῆψεν in the *de mundo* passage, well before the quotation, does not seem to me to give any worthwhile support to συνάψιες.

Before ἐκ πάντων most mss. add another καί: but Stobaeus does not (the transcription of Apuleius[BV] seems doubtful). Vind 8, which was one of the few mss. to give the correct reading ὅλα καὶ οὐχ ὅλα, also omits καί, as does Paris 166, which, however, is more liable to inaccuracy at this part of the treatise. While connecting particles were being added to the pairs of opposites it would be easy to add one here also. Certainly there is a considerable break in the flow of the sense: ἐκ πάντων κτλ. states a conclusion from or summary of the preceding part of the quotation, and we should expect it to be separated by at least a colon. This is what Lorimer puts in his text (as did Bywater), and I have followed him, though with less confidence than at other points.

As συνάψιες has not been put entirely out of account by the ms. evidence it is as well to consider whether it, and it alone (as Kranz in DK implied), provides a possible sense, and whether indeed it is in itself a probable word. A glance at LSJ shows that neither σύναψις nor σύλληψις (σύλλαψις) occurs before Plato and Aristotle apart from this fragment, except that the latter is a good fifth-century legal word for 'arrest' or 'laying hold of': this is hardly an appropriate sense here. Other forms akin to σύναψις, namely, συναφή and συνάφεια, similarly do not occur earlier than Aristotle. συλλαβή, on the other hand, seems to occur first at Aeschylus *Suppl.* 457, συλλαβὰς πέπλων (active); and *Septem* 468, meaning 'syllable'—that is, in a passive sense, 'that which is taken together'. Of corresponding verbal forms, συνάπτειν is very common: so at e.g. Hdt. II, 75, = 'border on'; Aesch. *Ag.* 1609, ξυνάψας μηχανήν; but, of plural abstract concepts, not before Plato. On the other hand, συλλαμβάνειν means 'to comprise, or take together' (particularly in speaking) at Hdt. III, 82; VII, 16, as well as at Plato *Sophist* 234B (εἰς ἓν πάντα συλλαβών) and elsewhere. On these grounds, therefore, συλλάψιες (in itself an unexceptionable noun-form) is a more probable word for Heraclitus to have used than συνάψιες: in the plural it presumably has a passive sense like that of συλλαβή, only without the technical sense of '*letters* taken together'. In any case, it might be objected, the argument is purely a technical one, for the two words mean very much the same thing. Yet συλλάψιες contains an implication of an animate assessor which is absent from συνάψιες: and this limitation of meaning is of great importance. Gigon (20ff. and 44ff.), who makes his interpretation of this fragment, very largely, the basis of his theory of Heraclitus' cosmology, takes συνάψιες = 'things in contact' to imply that the pairs of words which follow are related to each other by succession, and that the final words mean 'all things come out of one, and then (at a later stage) one comes out of all things'. This is made to support his intuition that the main opposition, for Heraclitus, is between κόσμος and πάντα. This interpretation, as will be seen, is scarcely possible; fortunately συλλάψιες, which from every point of view appears to be the word used by Heraclitus, allows a more pregnant interpretation, especially of the final words. The only doubt is whether it means 'takings together' (i.e. more than one act of comprising, whether in speech or merely in thought) or 'things taken together', the objects of such an activity. The use of the plural suggests that the latter is the correct meaning; we have seen that this passive sense is justified by the very close analogy of συλλαβή.

An examination of the groups of words which follow shows that they are not, as Gigon thought they were, typically Heraclitean pairs of opposites: Snell has stated this very clearly. Above all they are not opposites which can be connected because they invariably succeed one another. Indeed, ὅλα and οὐχ ὅλα are contraries, not opposites in the Heraclitean sense of extremes or poles of a single continuum: they are not opposed in the sense that the hot and the cold, or winter and summer, or the way up and the way down, or the beneficial and the harmful, or satiety and hunger, are opposed; though doubtless if one were asked 'What is the opposite of "whole"?' one might be tempted to reply 'Not whole'. It is legitimate to infer that the opposed things (which we call opposites; it is perhaps accidental that this word does not occur in the extant fragments) which Heraclitus stated to be 'the same' are invariably thought of as extremes; yet even if 'whole' is an extreme[1] yet there is no opposed extreme. Concepts like 'broken' or 'interrupted' or 'in pieces' are all susceptible of further, quantitative, determination, such as 'in sixty-four pieces'; and, as Anaxagoras well knew, 'there is not a smallest part of the small'. 'Not whole' simply attempts to hide this deficiency: negation does not imply the opposite, as, for example, 'not summer' does not necessarily imply winter, and might imply 'pig'. As for the question of succession, a relationship which

[1] That is, in relation to the entire indefinite continuum of 'not whole'.

Gigon thought to apply to the two members in each of these groups of words, it is true that any alteration of the attribute 'whole' must involve its replacement by the attribute 'not whole'—but then any change in any object (to revert to the type of materialistic analysis which must have presented itself to Heraclitus) must similarly result in its replacement by another object which is not the first object: for example, if the hot (regarded as an extreme) changes, then it must become 'not the hot'. It is extremely doubtful if this had the kind of significance for Heraclitus that Gigon thought it had—that is, the kind of significance that the invariable succession of night and day actually had for him, namely, that night and day are essentially connected and therefore one.[1]

The words συμφερόμενον διαφερόμενον *could* be treated as an example of the coincidence of opposites: compare fr. 51, where ξυμφέρεται should probably be read (as in Plato's paraphrases) instead of ὁμολογέει in Hippolytus: οὐ ξυνιᾶσιν ὅκως διαφερόμενον ἑωυτῷ ξυμφέρεται· παλίντονος ἁρμονίη ὅκωσπερ τόξου καὶ λύρης. Perhaps τι should be understood as subject of the ὅκως clause, and that of which παλίντονος ἁρμονίη is predicated; but whether this or a word like ἅπαν is to be understood, it is plain from the simile of the bow and lyre (the point of comparison must be the normal tension of the string) that 'being brought together' and 'being brought apart' are alternative ways of describing a single condition, according to one's point of view or point of comparison. They are not succes-

[1] Of course *we* understand, and doubtless Heraclitus would have understood if it had been put to him in this way, that 'opposites' like summer and winter merge into each other, and that there are intervening periods which cannot be described entirely as summer or entirely as winter. In the case of youth and old age, for example, the one extreme is not *suddenly* replaced by the other, even if in fr. 88 Heraclitus chose to take a synoptic view, concentrating on the termini of the young-old continuum and ignoring the process between them. Actually the fact that in many cases the process from one extreme to the other is necessarily a gradual one would appear to Heraclitus to strengthen his argument for the real connexion of all extremes. He did not make this point, at any rate in the fragments which survive, presumably because he was thinking in verbal symbols which can easily be mentally classed as 'opposites', and which encourage the thinker to ignore the results of experience—for example, that twilight is an intervening stage between what we experience as day and what we experience as night. For Heraclitus it was the invariable nature of the succession between two extremes, rather than its manner of operation, which was chiefly significant of their essential unity.

sive states.[1] So it is in Aristotle's summary, which counts as fr. 8D of Heraclitus: τὸ ἀντίξουν συμφέρον καὶ ἐκ τῶν διαφερόντων καλλίστην ἁρμονίαν....So also, perhaps as a direct reminiscence of Heraclitus, in several passages of the first book of *de victu*, e.g. I, 18 τὰ πλεῖστον διάφορα μάλιστα συμφέρει, τὰ δὲ ἐλάχιστον διάφορα ἥκιστα συμφέρει. Still less can the next pair of words, συνᾷδον διᾷδον, be regarded as opposites whose connexion lies in the fact that they invariably succeed each other: but this is how Gigon 21 takes them, followed by Walzer ad fr. Snell has utterly refuted this interpretation (*Hermes* 76 (1941) 86): Gigon was right to interpret συνᾷδον as 'singing in tune' (either with other voices or with an instrument); διᾷδον then is a word formed by Heraclitus on the analogy of the prefixes in the previous pairs of compound verbs, and means 'singing out of tune' (for which ἀπᾴδειν is the Platonic word). But it is pedantic to argue that singing in tune is regularly succeeded by singing out of tune; these are not true opposites in the Heraclitean sense, but only in the sense that ὅλα and οὐχ ὅλα were discovered to be contraries. All that this pair of words implies in itself is, as Snell put it, 'das Nebeneinander von übereinstimmenden und abweichenden Tönen'; Gigon, while avoiding the major blunder of taking συνᾷδον to mean 'in harmony', failed to give proper consideration to the meaning of the word or that of its formal opposite.

Until the publication of Snell's article it had been assumed that συλλάψιες (or συνάψιες) was the predicate of the three following groups of words; it was a heading which subsumed and described what followed. So in fr. 88 ταὐτό is the predicate of the pairs of opposites which follow it; Wilamowitz, followed by Gigon and Walzer, deleted the words τ' ἔνι from the fragment, and so gave it a form very close to fr. 10 here. If this is the case then the fragment would mean: 'Wholes and not wholes, what is being brought together and what is being brought apart, singing in tune and singing out of tune, are things taken together'—in other words, they belong to the same genera. The sense is intolerably weak, and the whole statement becomes banal. If συνάψιες were predicate there would be a little more point, but we have seen this reading to be

[1] As Plato makes Eryximachus complain at *Symp.* 187A, B; he even suggests (following the passage quoted on p. 204) that possibly Heraclitus meant to specify successive states.

improbable. Snell adds a further argument against this view: from the other fragments of Heraclitus, and especially those of Group 5 (cf. also fr. 51), we should deduce that it is the διαφερόμενα themselves which are 'connexions' (so as to become συμφερόμενον): συμφερόμενον and διαφερόμενον can themselves only be described as 'connected' in a very unusual sense, and certainly not that which scholars have attached to the word in this context. Snell, on the other hand, has suggested that συλλάψιες should be taken as subject, and the three groups of succeeding words as predicates. It is at once clear that in this case there is no need for the members of those groups to be opposites in the Heraclitean sense, or to bear similar relationships to each other in each group. The sense given is strong: 'Things taken together (that is, things mentally connected and therefore belonging to the same category—and especially extremes or "opposites", like moist and dry, hunger and satiety) are in one sense wholes or continua, in another sense not wholes, but separate and opposed. In one sense they tend together, to unity, while in another sense they tend apart, to plurality. In one sense they sing in tune with each other and form a single unison, in the other sense they sing different tunes and appear as utterly separate.' Thus there are two opposed views which can be taken of συλλάψιες; the first terms in the three groups of predicates describe one view, the last terms the other. Such a statement is completely in accord with what we know from other fragments of Heraclitus' mode of thought: in all the fragments dealing with opposites he stressed the first or synthetic view against the second, conventional, analytical approach. Unlike Parmenides he did not deny the existence of the 'many things' of the phenomenal world, though he considered that wisdom lay in being able to regard them synthetically. To see the connexion between things and not their separation would presumably be just as stupid (for men, at least; cf. fr. 102) as the common, almost universal, fault of seeing the separation and not the connexion. There is no need to urge on men the fact that things are many and separate (in one way); that is why the opposite view is so strongly stressed in the fragments. Nevertheless, the denial of plurality would involve the denial of the resultant unity, just as the abolition of ἔρις would involve the destruction of the ordered cosmos (Group 8). In this fr. 10 the two different ways of looking at things are stated as alternatives, without the suggestion that either can be

entirely dispensed with; though there can be no question that the synthetic way is the more significant.

Thus if συλλάψιες is taken as subject the whole statement becomes meaningful, and the meaning given accords well with that of other fragments. There is of course nothing in the structure of the sentence to prevent us from treating that word as subject: thus in fr. 67 ὁ θεός, as subject, is followed as here by three groups of opposed words which stand as predicates; and in fr. 31 the heading, πυρὸς τροπαί, is subject and not predicate. The variation from the plural of ὅλα καὶ οὐχ ὅλα to the singular form of the two other groups of words is slightly more difficult on the assumption that these groups are predicates and not subjects; but there is no insuperable difficulty, especially in view of Heraclitus' customary freedom over adjectives used as substantives (cf., for example, fr. 126), if there is assumed to be a not impossible modification of the meaning of συλλάψιες from 'different groups of things taken together' in the case of ὅλα, οὐχ ὅλα (which are of course substantives), to 'single cases of things taken together' (e.g. the hot-the cold) in the case of the singular participial substantives. The omission of the article before such participles is relatively common in Heraclitus.

The last part of the fragment, ἐκ πάντων ἓν καὶ ἐξ ἑνὸς πάντα, is, as has been seen, probably separated from διᾷδον by a colon. Once συλλάψιες is accepted it becomes impossible to interpret ἐκ and ἐξ in a gross temporal sense—that is, if the last sentence of the fragment is to have any bearing on the first. Thus there is no connexion whatsoever between the last sentence and those statements of the temporal successions of ἕν and πάντα collected by Norden, *Agnostos Theos* 247 f., and adduced by Gigon 45 f. and Walzer ad fr. A typical example of these statements is attributed to Cleanthes, in connexion with a cosmogony, by Arius Didymus (*SVF* 1, 497): οὕτως ἐξ ἑνός τε πάντα γίνεσθαι καὶ ἐκ πάντων ἓν συγκρίνεσθαι. Cf. also pseudo-Musaeus, DK 2 A 4; pseudo-Linus *ap.* Stobaeum *Ecl.* 1, 10, 5 (1, 119 Wachsmuth). In point of fact such statements depend partly upon Empedocles' assertion of a temporal succession between ἕν and πλέονα (fr. 17, 1 f.), and partly (as Diels, *Doxographi* 179, well showed) upon Aristotle's momentous and misleading generalization, *Met.* A 3, 983 b 8 ἐξ οὗ γάρ ἐστιν ἅπαντα τὰ ὄντα καὶ ἐξ οὗ γίγνεται πρώτου καὶ εἰς ὃ φθείρεται τελευταῖον . . . τοῦτο στοιχεῖον καὶ ταύτην ἀρχήν φασιν εἶναι τῶν ὄλων. Snell saw that there can be no question

of cosmogony in the last sentence of the fragment, and suggested, without committing himself any further, that the verb to be understood was ἔστι or συνέστηκε: 'diese συλλάψιες', he comments (*op. cit.* 87), 'als Gleichnis standen für die grosse σύλλαψις des Kosmos, der "aus Einem" und "aus Allem" besteht.' Now it is true that the phenomenal world exemplifies a unity made *out of* plurality, not simply because it is a whole of parts but rather because all its apparently disconnected parts are essentially connected: so it is assumed on the basis of the coincidence of opposites. In the words of fr. 54, there is a ἁρμονίη ἀφανής: an apt parallel is provided by *de victu* I, 17, οἰκοδόμοι ἐκ διαφόρων σύμφορα ἐργάζονται, τὰ μὲν ξηρὰ ὑγραίνοντες, τὰ δὲ ὑγρὰ ξηραίνοντες, τὰ μὲν ὅλα διαιρέοντες, τὰ δὲ διῃρημένα συντιθέντες. The word ἐκ in the fragment might legitimately imply a constituent material and not a creative process in time: this κόσμος is eternal according to fr. 30, it must always have contained πάντα and must always have been a synthesis of its many parts. On the other hand, it does not seem to be the case that, in an analogous sense, 'one thing' is the constituent material of 'all things': Heraclitus' unity *is* the connexion between opposites, and the connexion can scarcely be regarded as sole constituent of the things connected. Therefore Snell's explanation, even so far as it goes, is unsatisfactory. The word συλλάψιες, being derived from λαμβάνειν, of itself implies a personal subject or subjects: in this fragment it must mean '*things* taken together', but the personal criterion is not abolished, and we have seen that the groups of distinctive predicates each contain possible alternative descriptions, according to the point of view of the person 'taking together'. That Heraclitus was aware of the possibility of using different standards in judging a single object is shown by the relational fragments of Group 3. The last sentence of the fragment must depend upon the same possibility of different points of view: 'from all things (i.e. the plural phenomenal world) one can understand a unifying connexion; from this connexion, the single formula or Logos of all things, one is led to turn one's attention back to the many things which are so connected.' The first stage or point of judgement corresponds with predicating 'whole, tending together, in tune' of those things which one 'takes together'; the second with predicating 'not whole, tending apart, out of tune' of the same things. The difference is that συλλάψιες by itself might refer to a limited number of opposites or

genera, while πάντων in the last sentence shows that it is the whole content of the phenomenal world which is under discussion. Thus this last sentence, as well as summarizing what goes before, provides a definite addition to the sense.[1]

According to this interpretation of fr. 10 there is no inconsistency with fr. 50, where the content of the Logos is said to be the fact that all things *are* one, ἓν πάντα εἶναι. Fr. 10 also implies this; but it describes not the fact itself but the human mind's apprehension of it, and so uses ἐκ and ἐξ to suggest the mind's change from one aspect of the fact to the other.

[1] Prof. R. Hackforth made this comment on this paragraph: 'It seems to me that the difference between ἐκ πάντων ἕν and ἐξ ἑνὸς πάντα is that between "the world is a differentiated *unity*" and "the world is a *differentiated* unity".' This brings out the contrast very well.

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(61 B)

Porphyrius *Qu. Hom.* ad *Il.* IV, 4 (p. 69 Schrader) ἀπρεπές φασιν εἰ τέρπει τοὺς θεοὺς πολέμων θέα. ἀλλ' οὐκ ἀπρεπές· τὰ γὰρ γενναῖα ἔργα τέρπει. ἄλλως τε πόλεμοι καὶ μάχαι ἡμῖν δεινὰ δοκεῖ, τῷ δὲ θεῷ οὐδὲ ταῦτα δεινά· συντελεῖ γὰρ ἅπαντα ὁ θεὸς πρὸς ἁρμονίαν τῶν [ἄλλων ἢ καὶ][1] ὅλων οἰκονομῶν τὰ συμφέροντα, ὅπερ καὶ Ἡράκλειτος λέγει, ὡς **τῷ μὲν θεῷ καλὰ πάντα καὶ ἀγαθὰ[2] καὶ δίκαια, ἄνθρωποι δὲ ἃ μὲν ἄδικα ὑπειλήφασιν ἃ δὲ δίκαια.**

1 secl. Zeller, ZN 835 n. 3. 2 καὶ ἀγαθὰ om. codd. aliqui, habet Towni.

They say it is unbecoming if the sight of wars delights the gods. But it is not unbecoming; for what delights them is the noble deeds. And besides, wars and battles seem dreadful to us, but to god not even these are dreadful: for god accomplishes all things with a view to a harmony of the universe, arranging them so as to be fitting—as Heraclitus also says, that To god all things are beautiful and good and just, but men have supposed some things to be unjust, others just.

Zeller was probably right in characterizing the bracketed words as an ancient variant which was taken into the text. ὅλων rather than ἄλλων is presumably the correct reading, cf., for example, Xen. *Cyropaedia* VIII, 7, 22 for τὰ ὅλα = 'the universe'; ἄλλων is possible but not strictly logical. What perhaps happened was that an original ὅλων was corrupted into ἄλλων: ὅλων was then correctly glossed at a later stage, and this gloss then taken into the text after the accepted, but suspicious, corruption. οἰκονομῶν κτλ. might mean 'dispensing (only) what is fitting'.—Presumably Porphyrius is referring to an otherwise unrecorded objection after the manner of Zenodotus.

Wilamowitz, *Herakles*[2] II, 68, correctly observed that the sentiment attributed to Heraclitus is expressed in Porphyrius' own words, not in its original form: this is suggested by the extreme antithetical style and the variation in construction from τῷ . . . θεῷ to ἄνθρωποι . . . ὑπειλήφασιν; for as far as can be determined from other fragments Heraclitus emphasized parallelism in sense by the use of parallel constructions rather than by excessive use of μὲν . . . δέ. C. Mazzan-

tini, *Eraclito* 96, held that the use of ὑπολαμβάνειν, meaning 'to suppose', was in itself a sign of rewording; but while this sense of the word is rare before Plato it occurs once in Herodotus (II, 55), and therefore cannot be regarded as impossible for Heraclitus. Probably the extent of the rewording is not very considerable; ὁ θεός recurs in fr. 67 in connexion with other opposites (though the relationship implied is quite different), and the contrast between human and divine is again explicitly drawn in frr. 78, 83. The fact that only the last of the three adjectives in the first part of the sentence is treated in the second part, with its opposite, may be due as much to the naturally rhythmic quality of Heraclitus' prose, and his tendency to make parallel clauses rhythmically equivalent at the expense of precise verbal correspondence, as to Porphyrius' careless Greek. There is no reason to doubt that the sense of the fragment was expressed by Heraclitus.

Mazzantini well suggested (if I correctly interpret his somewhat abstract phraseology) that if the original form had been something like ἀνθρώποις δὲ ἃ μὲν ἄδικα ἃ δὲ δίκαια there would be less difficulty than there now is in the interpretation of the two instances of δίκαια. In the present form of the fragment the subjective word ὑπειλήφασιν implies that the distinction made by men between, for example, just and unjust is illusory and invalid: but if this is the case then the word 'just' (and also 'beautiful' and 'good') should not be used of things as seen by god, since by its nature and its use below to describe an extreme it implies this very distinction. If, on the other hand, men legitimately distinguish between just and unjust (a possible interpretation with τοῖς ἀνθρώποις), then this illogicality is avoided. To imply that this distinction would be legitimate would not be to suggest that it is admirable: the synthetic view (seeing the underlying unity in opposites) is more admirable, certainly in Heraclitus' eyes, than the analytical one (seeing only their separateness and difference).[1] Yet the analytical view also is necessary: if the opposites ceased to be in one sense opposed then the underlying unity would fail, just as if strife ceased the world as

[1] H. Fränkel, *Trans. Amer. Philol. Ass.* 69 (1938) 243, goes further than this, perhaps rightly: 'This does not mean however that the contraries mutually neutralize one another, so that the balance is zero. With Heraclitus, the balance is positive in each single case: before God, unrighteousness merges in righteousness, and the result is righteousness throughout (fr. 102).'

we know it would die; the unity that followed would be the unity of changelessness and death. This is largely speculative interpretation: but fr. 10 stated clearly enough that things taken together are wholes and not wholes; thus δίκαια and ἄδικα, which are συλλάψιες, can either be regarded as a single whole or as separate and distinct opposites. Admittedly, in fr. 10 the relationship of συλλάψιες and ὅλα κτλ. is not expressed by a verb; but it can hardly be other than predicative, and certainly could not imply that either of the alternative ways of assessing things is impermissible.

Of course, a slight variation in the meaning of, for example, δίκαια is unlikely to have troubled Heraclitus; the matter has been raised because there are other grounds for thinking that in the possible original form of the saying the variation was not as great as it now is. In a passage which has been held to be an imitation of this fragment a similar variation (and, strictly, confusion) is more immediately apparent: *de victu* I, 11 τὰ μὲν οὖν ἄνθρωποι διέθεσαν οὐδέποτε κατὰ τωὐτὸ ἔχει οὔτε ὀρθῶς οὔτε μὴ ὀρθῶς· ὅσα δὲ θεοὶ διέθεσαν ἀεὶ ὀρθῶς ἔχει καὶ τὰ ὀρθὰ καὶ τὰ μὴ ὀρθά· τοσοῦτον διαφέρει. Here there may be a consciously paradoxical use of ὀρθά, as certainly in καὶ οὐ φίλα σοὶ φίλα ἐστίν at Cleanthes *Hymn to Zeus* 15—another work which contains echoes of Heraclitus. In neither case, however, can a direct reminiscence of this fragment be proved; the sense of the sentence from *de victu*, although its form is quite similar, is utterly different from that of the fragment, and the words of Cleanthes, though they too express the view that opposites are one to god, are too few to be conclusive. Reinhardt, *Parmenides* 180 n. 2, took the fragment as a criticism of men for not seeing the connexion between the just and unjust; so it is, but it is more than this, and more too than a mere restatement of the coincidence of opposites in moral terms.[1] Gigon 137 believed the context in Porphyrius to show that the saying of Heraclitus referred specifically to war: cf. fr. 80, εἰδέναι χρὴ τὸν πόλεμον ἐόντα ξυνὸν κτλ. God knows that strife is justice, while men do not understand this but, like Homer, pray for the abolition of strife. This is a possible enough sentiment. Yet in Porphyrius the quotation is separated from the remarks about wars and battles by a purely generalized assertion about god, συντελεῖ– συμφέροντα. If Porphyrius knew that Heraclitus' comparison of god and men applied specifically to their views on war, then surely he would have quoted it in such a way as to show that this was its real application: after all, the whole point of his comment on the line of Homer is to advance the view that there was nothing improper in the gods watching a battle; if he could have adduced Heraclitus on this very point his case would surely appear stronger. As it is, Heraclitus' saying is separated from the main contention by a Posidonian (rather than particularly neo-Platonist) description of the deity. No doubt war and the like would be included in Heraclitus' assertion that both what is just and what is unjust for men are just for god; but there is really no evidence that the context in Porphyrius contains Heraclitean material. There is perhaps a mildly Heraclitean flavour about ἁρμονίαν and συμφέροντα: but these concepts are typical of the Posidonian school (which was ultimately dependent, through the early Stoa, on Heraclitus)—cf. parts of *de mundo*, and in particular the context of fr. 10 above.

[1] Gigon's objections against this last interpretation (which he wrongly attributes to Reinhardt) are based on the belief that Heraclitus cannot have used δίκαια in incompatible senses.

The fragment is best interpreted in the light of fr. 10: there are two possible views about all opposites, including moral ones. Of these views the synthetic one is the more important; from the viewpoint of god, removed from (or perhaps subsuming) the realm of opposites, it is the only significant one; for men too it is of prior importance, though they normally neglect it completely. What precisely Heraclitus can have meant by ὁ θεός here will be discussed further under the next fragment, 67; one must also refer to frr. 82–3, 78–9, 124, 70, as well as to frr. 108, 41, 32 (Group 12). According to fr. 67 god would not view things in terms of opposites, because he himself *is* (or temporarily becomes) the opposites.

67

(36B)

Hippolytus *Refutatio* IX, 10, 8 (p. 244 Wendland) ἐν δὲ τούτῳ τῷ κεφαλαίῳ πάντα ὁμοῦ τὸν ἴδιον νοῦν ἐξέθετο, ἅμα δὲ καὶ τὸν τῆς Νοητοῦ αἱρέσεως, ⟨ὃν⟩ δι' ὀλίγων ἐπέδειξα οὐκ ὄντα Χριστοῦ ἀλλὰ Ἡρακλείτου μαθητήν. τὸν γὰρ ποιητὸν[1] κόσμον αὐτὸν δημιουργὸν καὶ ποιητὴν ἑαυτοῦ γινόμενον οὕτω λέγει· **ὁ θεὸς ἡμέρη εὐφρόνη**[2], **χειμὼν θέρος, πόλεμος εἰρήνη, κόρος λιμός,**—τἀναντία ἅπαντα, οὗτος ὁ νοῦς—**ἀλλοιοῦται δὲ ὅκωσπερ ⟨πῦρ⟩**[3] **ὁπόταν συμμιγῇ θυώμασιν ὀνομάζεται**[4] **καθ' ἡδονὴν ἑκάστου.** φανερὸν δὲ πᾶσι τοὺς ⟨ἀ⟩νοήτους[5] Νοητοῦ διαδόχους καὶ τῆς αἱρέσεως προστάτας, εἰ καὶ Ἡρακλείτου λέγοιεν ἑαυτοὺς μὴ γεγονέναι ἀκροατάς, ἀλλά γε τὰ Νοητῷ δόξαντα αἱρουμένους ἀναφανδὸν ταὐτὰ ὁμολογεῖν. λέγουσι γὰρ οὕτως· ἕνα καὶ τὸν αὐτὸν θεὸν εἶναι πάντων δημιουργὸν καὶ πατέρα....

1 πρῶτον cod., em. Bernays. 2 εὐφράνθη cod. 3 πῦρ suppl. Diels, ὅκως πῦρ Pfleiderer: ⟨ἀήρ⟩ Zeller: ⟨μύρον⟩ Heidel: ⟨ἔλαιον⟩ H. Fränkel, Snell. ⟨οἶνος⟩ post θυώμασιν Schuster, Schäfer, Brieger: ⟨θύωμα⟩ θυώμασιν Bernays, Bywater. 4 ὄζεται Lortzing. 5 ⟨ἀ-⟩ Bernays.

In this chapter he [sc. Heraclitus] set out all together his particular meaning, and at the same time that of the heresy of Noetus, whom I have just demonstrated to be a pupil not of Christ but of Heraclitus. For that the created world becomes maker and creator of itself he says in these words: God is day night, winter summer, war peace, satiety hunger,—*all the opposites, this is the meaning*—and undergoes alteration in the way that fire, when it is mixed with spices, is named according to the scent of each of them. *It is clear to all that the senseless successors of Noetus and leaders of the heresy, even if they were to deny that they had become disciples of Heraclitus, yet by choosing Noetus' opinions openly agree in the same beliefs. For they say this: that one and the same god is maker and father of all things....*

The words 'in this chapter' (for such must be the meaning of κεφάλαιον in a phrase like this, see n. 1 on p. 350) probably refer to what had gone before, i.e. fr. 64–5; τούτῳ could scarcely point

forward to fr. 67, from which it is very far separated. This is the only occasion on which Hippolytus appears to allude to the source from which he derives the sixteen or so quotations from Heraclitus which occur in these two chapters of the *Refutatio*. Hippolytus must have had access to a good compendium, if not to an actual book by Heraclitus; he implies that the original arrangement was preserved in this source. Probably the claim should not be treated too literally; Hippolytus selected quotations from Heraclitus which were (or appeared to him to be) all on the same subject, and he would naturally assume that they came from the same part of Heraclitus' book.

The quotation itself raises many difficult problems. One thing is clear: that the words τἀναντία–νοῦς are interpolated, perhaps by Hippolytus himself. They have all the appearance of an explanatory gloss, the sense of which is no doubt correct. W. A. Heidel, 'On Certain Fragments of the Pre-Socratics', *Proc. Amer. Acad. of Arts* 48 (1913) 704ff., maintained that the words are those of Heraclitus except that οὗτος was originally ὡυτός: this suggestion was disposed of by H. Fränkel, 'Heraclitus on God and the Phenomenal World', *Trans. Amer. Philol. Ass.* 69 (1938) 230ff., who in n. 4 on p. 231 pointed to the difficulties of the article in τἀναντία, and the alleged unlikelihood at such an early stage of νοῦς = 'real significance'.[1]

The first part of the quotation sets ὁ θεός side by side with four pairs of opposites, two of which occur in other fragments. There is no verb to define the relationship, which presumably must be predicative; 'god' must be the subject, since it is certainly the subject of the main verb in the second part of the quotation. Even so one must remember Wilamowitz's dictum that θεός in Greek is essentially a predicate; the generalization is too sweeping, but it reminds us that at this stage of language and logic the division into subject and predicate cannot always be clearly made. The pairs of opposites all have one thing in common, that they are connected by

[1] Fränkel's distinction between 'abstract and objective "significance"' and 'intended meaning' is a very subtle one, but is not, I should say, certainly valid. True, of assured fifth-century uses, νόος at Hdt. IV, 131; IX, 98, = 'intended meaning'; so at Aristophanes *Frogs* 47. But the sense may be 'objective significance' at *Frogs* 1439, which falls among lines obelized by Aristarchus and certainly out of context, though not stylistically alien to Aristophanes.

invariable succession rather than by variation of standards—in other words, they belong with Group 5 and not to Groups 2, 3 or 4. The real unity of the first pair, day and night, was explicitly stated in fr. 57; doubtless Heraclitus held the same to be true of the second pair, winter and summer, which are also temporal divisions and also dependent on the behaviour of a single factor, the sun.[1] The equivalence of the fourth pair, κόρος λιμός, is asserted in fr. 111, where these opposites are associated with others especially connected with human feelings and affections; but it is not impossible that in the present case they are to be taken closely with the temporal opposites and especially with winter and summer, which produce variations in the state of the food supply. It is true that in fr. 65, quoted by Hippolytus a little before, Heraclitus is said to have called fire χρησμοσύνην καὶ κόρον: Hippolytus adds, no doubt from Stoic-influenced sources, that 'want' describes the world-forming process and 'satiety' the ἐκπύρωσις or turning of all things into fire. Gigon 147 is unusually cautious over identifying κόρος λιμός with χρησμοσύνην καὶ κόρον, but remarks that if they do have the same meaning then the four pairs of opposites in fr. 67 may deliberately represent increasingly long time-periods. The third pair, war-peace, does not fit happily into this scheme, and no doubt the pairs of opposites were not selected so deliberately. In fact the attribution of cosmogonical significance to χρησμοσύνην καὶ κόρον is out of the question: Heraclitus implies clearly enough in fr. 30 that there was no cosmogony and will be no dissolution into fire; this was a Stoic interpretation based perhaps upon the Peripatetic transformation of the constant cosmological process into a world-forming process. Fr. 65 (on which see pp. 357ff.) occurs in a passage which is mainly interpretation by Hippolytus or his source; the only thing that can be attributed to Heraclitus are the two words χρησμοσύνη and κόρος. The former is too unusual to be regarded simply as a doxographical variant of λιμός, but the predication of these words of πῦρ is perhaps derived from the predication of κόρος λιμός of ὁ θεός in this fr. 67: on the Aristotelian assessment, 'fire' and 'god' were

[1] In the detailed account of Heraclitus' opinions at Diog. L. IX, 11 summer and day are due to the predominance of the bright exhalation, winter and night to that of the dark one. The dual-exhalation theory, as will be shown later (pp. 271 ff.), is probably foreign to Heraclitus; but the passage may suggest that he gave some account of the causes of summer and winter.

identical for Heraclitus. The third pair of opposites, war-peace, is at first sight more straightforward: yet how can god be described as 'peace' when fr. 53 asserted that 'War is the father and king of all', and Homer was rebuked for his prayer that 'strife may perish from gods and men'? War and strife seem to have symbolized for Heraclitus the inevitability of change which for him was essential to the survival of a cosmos; peace (which is not named elsewhere in the fragments; the mention of it in the Theophrastus-derived account at Diogenes IX, 8 as the stage leading to ecpyrosis is probably purely speculative) would thus, if continued indefinitely, lead to the disruption and death of the cosmos as we have it. Yet this difficulty is perhaps created by trying to impose upon Heraclitus a consistency, and a precision of vocabulary, to which he never aspired and which he certainly fails to achieve in some other passages. War is used as a symbol for the predominance of change, of action and reaction; but the word πόλεμος can also be used to describe a well-known fact, war in its straightforward, descriptive, non-symbolic sense; and so too in the case of εἰρήνη. Indeed, it is possible to defend Heraclitus against the charge of inconsistency even while accepting in this fragment the symbolic implications of the words 'war' and 'peace': short periods of peace in isolated parts of the cosmos would not bring about a stoppage in the movement of the whole, just as the long immobility of a stone or a mountain does not destroy the general rule that all things eventually must change. Probably, though, the former explanation is the simpler and more acceptable one here.

The relationship between ὁ θεός and these four pairs of opposites cannot be fully explored without examining the second part of the fragment, which goes on to describe the way in which god undergoes, or appears to undergo, change from one extreme of each pair to the other, or from one pair taken as a whole to another pair. The gloss gives a plausible explanation, that the four pairs are named as representatives of all opposites: this would explain the fact that they cannot all be placed in any single category. Cosmological events are balanced against anthropological, as is appropriate to a generalization of this character about a god who is somehow identified with or inherent in the whole world. Clearly the words which follow the gloss must be subjected to a critical scrutiny (especially in view of the uncertainty about ἀλλοιοῦται, which is discussed

below) in order to determine whether they really belong to the quotation or simply continue the comment of Hippolytus. Here the words of Hippolytus which introduce the quotation help to reassure us, though they give little positive information: Heraclitus is said to state that the cosmos *becomes* (note the present participle) its own maker and creator. The word γινόμενον must refer to ἀλλοιοῦται κτλ., and could not possibly describe the juxtaposition of god and the four pairs of opposites. Thus Hippolytus himself implies that the quotation continues after the added explanation τἀναντία–νοῦς. The first part of the quotation appears in his summary in the word κόσμον: this must be inferred from the equivalence of god and the opposites and represents a similar interpretation of these words to that of the gloss which follows them.[1]

The fragment gives a different idea of θεός from that which is to be derived from the other extant fragments. Frr. 5, 24, 30, 53 mention θεοί in a purely traditional sense (though fr. 30 denies that any of them made 'this cosmos'); in fr. 78 divine disposition is said to possess true judgement, as against human disposition; in fr. 83 θεός is said greatly to surpass men in beauty. In fr. 32 'the only wise' in one way consents to be called Zeus; in fr. 114 the Logos is by inference described as 'divine law'. Only in fr. 102, otherwise, is there any suggestion that god has a special connexion with the opposites: there we learn that all the opposites are equally 'good' to him. This is not entirely incompatible with the view that god himself is the opposites, unless strict logic is demanded from Heraclitus. Elsewhere in Heraclitus, it is true, the Logos occupies the place which in later thought would be held by ὁ θεός: in fr. 114 'the common' is equated with ὁ θεῖος νόμος, and fr. 2 states that the Logos is common. The Logos is undoubtedly connected with the opposites, in fact it is the unity which underlies them and which

[1] It may be noted that Hippolytus' mention of τὸν ποιητὸν κόσμον could conceivably be caused by the pairs of opposites alone, with the omission of ὁ θεός. If the δέ after ἀλλοιοῦται is dropped the quotation makes perfectly good sense, and becomes considerably less obscure, without ὁ θεός. It is conceivable that these words were added to the quotation by a copyist in order to improve the correspondence between the words of Heraclitus and the sentiment attributed lower down to the followers of Noetus, a sentiment which Hippolytus declares 'exactly to agree' with Heraclitus: λέγουσι γὰρ οὕτως· ἕνα καὶ τὸν αὐτὸν θεὸν εἶναι πάντων δημιουργὸν καὶ πατέρα. It will be seen, however, that ὁ θεός is probably integral to the fragment.

binds together into one nexus all the components of the apparently discrete phenomenal world. The Logos could certainly be identified with 'day night, winter summer, war peace, satiety hunger'; but if this Logos can correctly be described as divine there can be little objection to a saying which associates these same opposites (or any others) with ὁ θεός. Substantiation of the occurrence here of ὁ θεός is received from Philodemus *de pietate* 6a, p. 70 Gomperz; in this part of the work the views of earlier philosophers about the gods are being summarized, and after an undoubted quotation of Heraclitus fr. 64 come the following words: συμβ]αίνει δὲ κα[ὶ τὰ]ναντία θε[ῖα θε]ῖναι νύκτα [ἡμέραν, πόλεμον εἰρήνην κτλ. The lacunae are considerable, but the restorations of Crönert and Diels are reasonable, and there seems to be every reason to think that fr. 67 is referred to. It is difficult to see what except [ια θε] could have filled the gap of four letters between θε- and -ιναι, unless there was complete dittography of θεῖναι.[1]

The use of ἀλλοιοῦται has for long been regarded with surprise, if not with suspicion. H. Fränkel, *op. cit.* 232 n. 5, thinks that the original verbal expression was suppressed 'and replaced by a trivial and meagre paraphrase in the current language of doxography'. Of his reasons for so thinking, the first, that 'the expression is incomplete, inaccurate and illogical, in contrast to the careful phrasing of comparisons in frags. 1, 5 (*bis*), 90, 114', is not persuasive. It is true that most of the similes in extant fragments are simple in type and clearly expressed: but in fact fr. 114, one of those cited by Fränkel, contains a comparison just as compressed (surely 'illogical' at any rate is unfair?) as the one involved here. Fränkel's second reason for suspicion is that ἀλλοιόω is not otherwise found before the fourth century except at Thucydides II, 59; Euripides *Suppl.* 944 (iambics); and (for this work is probably one of the earliest of the Corpus) Hippocrates *Prognostic* 2. Later it occurs in Xenophon, often in Plato, Aristotle and Polybius, and in other works of the Hippocratic corpus—especially in *de victu*, e.g. I, 4; I, 10; I, 28. For a convenient summary of its occurrences see Ernst Fraenkel, *Griechische Denominativa* 117, who points out that the middle and passive uses are much commoner than the active. In Aristotle the verb acquired an almost technical meaning of 'qualitative alteration': the word 'alteration'

[1] On the other hand, *de pietate* 14, 26 ff., p. 81 G., might refer to fr. 53 and not this fragment.

in my translation above is not intended to prejudge the issue of whether the use here is pre- or post-Aristotelian. H. Fränkel admits that denominative verbs in -οω, especially in the middle and passive, occur from Homer onwards, and refers to Wackernagel *Sprachliche Untersuchungen zu Homer* 122ff.; but he is right in maintaining that the invention of many such verbs (like that of abstract nouns in -σις) belongs in particular to the second half of the fifth century. This is of course no certain proof that the word could not have been employed by Heraclitus as a neologism some half-century earlier, especially if he wanted a word which would *not* imply change between opposites (as his other words for change, ἀνταμοιβή, μεταπίπτειν, μεταβάλλειν, tended to do, especially in view of his use of the first two in that sense), but alteration in general, and, in particular, alteration from one continuum or pair of opposites to another. Heidel, 'Qualitative Change in Pre-Socratic Philosophy', *Archiv. f. Gesch. d. Philos.*, N.F., 12 (1906) 356, defended the word in this fragment by citing, for example, Plato *Theaetetus* 181D, where it is used to describe changes which do not involve motion; much more to the point, however, is the occurrence of the adjectival form ἀλλοῖος, not only in Homer, Pindar and Herodotus, but twice in Empedocles (fr. 108, 2; 110, 6). If the adjective were adopted as a convenient term in abstract writing then the improvisation of the verb would not be so difficult. On the other hand, in Diogenes of Apollonia fr. 2 occurs the following sentence: ἀλλὰ πάντα ταῦτα ἐκ τοῦ αὐτοῦ ἑτεροιούμενα ἄλλοτε ἀλλοῖα γίνεται.... Surely, it might be argued, if the cognate verbal form ἀλλοιοῦσθαι were known it would be used here, rather than an inappropriate verb which strictly implies 'becoming the other'? (ἑτεροιοῦσθαι is of course a verb of the same class as ἀλλοιοῦσθαι, and is found as early as Melissus.) The question is a complicated one, there are many factors both for and against, and until new literary evidence turns up no certain decision one way or the other can be made. Perhaps the strongest argument against ἀλλοιοῦται belonging to Heraclitus himself is the argument *ex silentio* advanced by H. Fränkel, that if such a convenient verb was in use as early as Heraclitus it is surprising that it does not recur in fifth-century philosophical writing, and does not tend to replace the longer and less precise expressions which were in fact used. My own feeling is that, in spite of the objections outlined, ἀλλοιοῦσθαι may have been coined by Heraclitus from

ἀλλοῖος to meet a particular purpose, but did not catch on with his contemporaries.

In the single manuscript of Hippolytus ὁκωσπερ is followed by ὁπόταν: the inconsistent use of Ionic forms shows the unstable nature of the tradition in this respect. In this case there can be no doubt that -κ- is correct in both instances. At some point in the simile a noun, subject of συμμιγῇ and ὀνομάζεται, has dropped out: on no other hypothesis can sense be restored, for neither god nor the pairs of opposites could be conceived on any occasion as being mixed with spices. Diels restored πῦρ after ὅκωσπερ: its omission by haplography would be very simple—or, as Pfleiderer held, a slight change in one letter would result in its attachment as a suffix to ὅκως. Most scholars—e.g. Burnet, Kranz, Gigon, Reinhardt, Calogero—have accepted Diels' restoration, mainly perhaps because of its great simplicity. This is a good reason for acceptance, and H. Fränkel's remark that 'Any word can be omitted for no apparent reason' (*op. cit.* 238 n. 26) savours of special pleading. Nevertheless, certain objections to the sense given by this restoration have to be considered. Nestle's criticism, ZN 834 n., that it is ineffectual to compare god with fire, since according to Heraclitus god and fire are the same, is not valid until this equivalence can be proved; and in fact the balance of the evidence is that although many of the same attributes are shared they are not interchangeable any more than are πῦρ and πόλεμος. In so far as this cosmos is an ever-living fire (fr. 30), and god is somehow inherent in it, they cohere: but quite apart from other considerations the kind of fire into which incense and spices are thrown is not identical with the ever-living fire of the cosmos. A more important objection is the obvious one advanced by H. Fränkel, *op. cit.* 233, that it is not Greek to talk of fire *being mixed with* spices. He maintained that the passage adduced by Diels (Pindar frr. 129–30 Schröder ἀεὶ θύα μειγνύντων πυρὶ τηλεφανεῖ παντοῖα θεῶν ἐπὶ βωμοῖς) does not justify the expression in Heraclitus because Pindar had a special and peculiar predilection for verbs meaning 'mix', which led him to invent strange phrases. Certainly F. Dornseiff, *Pindars Stil* (Berlin, 1921) 94ff., adduces some remarkable phrases of this type, e.g. εὐλογίαις ἀστῶν μεμῖχθαι (*Isthm.* III, 3), ὀκτὼ στεφάνοις ἔμιχθεν ἤδη (*Nem.* II, 22), and reaches the conclusion (p. 96) that 'Diese Worte sich mischen, berühren, begegnen usw. stehen für jede Relation, für jede Verbindung und

können alle Beziehungen bezeichnen'. On the other hand, the germ of these extreme usages was present in Homer, where μιγήμεναι can mean little more than 'to be brought into contact with' (LSJ s.v. B 2): e.g. κάρη κονίῃσιν ἐμίχθη (*Il.* x, 457; *Od.* xxii, 329); κλισίῃσι μιγήμεναι (*Il.* xv, 409). In this fragment of Heraclitus συμμιγῇ can mean exactly this. There is no close parallel for the expression, although some deceptive ones are quoted by Diels which provide a similar general situation: Cramer *Anecd. Par.* i, 167, 17 οἷον γὰρ καὶ τὸ πῦρ πάσχει πρὸς τὰ θυόμενα, εἴτε λιβανωτὸς εἴτε δέρματα, τὴν ὀδμὴν σαφηνίζει τοῦ ἑκατέρου· ταὐτὸ δὴ τοῦτο καὶ ὁ οἶνος ποιεῖ· ὁποῖον μὲν ἂν τύχῃ ἦθος ἐν αὐτῷ θυμιώμενον, τοιοῦτος γίνεται. Hippolytus *Refutatio* v, 21, 2 λέγουσιν οὖν οἱ Σηθιανοὶ τὸν περὶ κράσεως καὶ μίξεως λόγον συνεστάναι τῷδε τῷ τρόπῳ· τὴν ἀκτῖνα τὴν φωτεινὴν ἄνωθεν ἐγκεκρᾶσθαι, καὶ τὸν σπινθῆρα τὸν ἐλάχιστον ἐν τοῖς σκοτεινοῖς ὕδασι κάτω καταμεμῖχθαι λεπτῶς καὶ συνηνῶσθαι καὶ γεγονέναι ἐν ἑνὶ φυράματι, ὡς μίαν ὀσμὴν ἐκ πολλῶν καταμεμιγμένων ἐπὶ τοῦ πυρὸς θυμιαμάτων· καὶ δεῖ τὸν ἐπιστήμονα, τῆς ὀσφρήσεως ἔχοντα κριτήριον εὐαγές, ἀπὸ τῆς μιᾶς τοῦ θυμιάματος ὀσμῆς διακρίνειν λεπτῶς ἕκαστον τῶν καταμεμιγμένων ἐπὶ τοῦ πυρὸς θυμιαμάτων οἱονεὶ στύρακα καὶ σμύρναν καὶ λίβανον ἢ εἴ τι ἄλλο εἴη μεμιγμένον. Another passage in Hippolytus refers again to this same image, which was evidently a favourite one among the Sethians: *Refutatio* x, 11, 3 (cf. v, 19, 4) ἡ δὲ τοῦ πνεύματος εὐωδία φέρεται... ὥσπερ ἡ τῶν θυμιαμάτων ὀσμὴ ἐπὶ τῷ πυρὶ φέρεται. It must be understood that the participle καταμεμιγμένων in the first Hippolytus passage does not describe the relationship of the spices with the fire, but the relationship of the separate spices to each other—a much more normal expression and idea. It is true that the participle is on both occasions followed by the locative phrase ἐπὶ τοῦ πυρός: but to be mixed over or on the fire is very different from being mixed with the fire. In the Sethian image a number of different spices are simultaneously thrown on to a fire, so that they mix with each other; or they are first mixed and then thrown on to the fire. The result is a complex odour which defies the analysis of all but the purest and most acute nostril. In the image used by Heraclitus it is not certain whether spices are thrown one after the other on to the fire, and so mixed *with it*, or whether they are mixed with it all at once: this depends upon the interpretation of the last three words of the fragment, which will be discussed below. Even though the corre-

spondence between the fragment and the Sethian image is not exact, it is close enough to be remarkable, especially as both sources are cited by the same author in the same work. Yet Hippolytus is quite clear in his attributions, and indeed the image is employed so differently and so typically by the Sethians on the one hand and Heraclitus on the other that there can be no question of confusion by Hippolytus. There is, however, a remote possibility of influence one way or the other, a stage earlier in the tradition. Reinhardt, *Parmenides* 158ff., made out a case for believing that Hippolytus' source for his quotations from Heraclitus was Simon the Magus (heresies credited to him are refuted at *Refutatio* vi, 7ff.), whose treatment of fire suggests that Simon had studied Heraclitus.[1] Reinhardt has since (Hermes 77 (1942) 20) had doubts about this specific attribution, and now describes Hippolytus' source as 'ein mit Sicherheit nicht zu bestimmender Gnostiker'. This is because scholars now justifiably doubt, as Mr H. Chadwick tells me, whether the Simonian heresies, attacked by Hippolytus, were at all closely derived from the historical Simon. Now the Gnostic heresies of both Simonians and Sethians grew up in Samaria at about the same period, and the possibility that one influenced the other in the use of imagery derived from ancient sources cannot be overlooked. Reinhardt maintained that the Sethians as well as 'Simon' referred to Heraclitus: but for this there is not a shred of evidence apart from their use of the spice and fire simile. It is much more likely that their knowledge of Heraclitus, if any, was somehow derived from the Simonians, and that they adapted fr. 67 to their own purposes from them. Yet the evidence is too slight for anything to be based upon this possibility: this kind of image might have been in common use and had many different forms. Unfortunately, the instance of it in the *Anecd. Par.* (under the heading περὶ Ἱππομάχου) cannot be dated. This much remains clear: that the existence of these passages does nothing to explain the unusual phrase πῦρ ὁπόταν συμμιγῇ θυώμασιν in Heraclitus as restored by Diels, and does not really help to establish this particular image of fire and spices as a canonical one. It does show, however, that it was a possible image; it has been seen that

[1] I attach no evidential value to the remark at *Refutatio* vi, 9, 3 (cited by Reinhardt *op. cit.* 161), that Simon, by saying that God was originative fire, was οὐκ αὐτὸν διασπῶν μόνον τὸν νόμον Μωσέως, ἀλλὰ καὶ τὸν σκοτεινὸν Ἡράκλειτον συλαγωγῶν.

the instance from Pindar provides a perfectly good parallel for the grammatical usage.

Fränkel's final objection to πῦρ as the noun to be supplied in fr. 67 is more serious: it is that specific names of spices were *not* in fact attached to the smoke of the fire into which they had been cast, but applied to the spices in their solid form. Yet this is to take the whole sentence, and ὀνομάζεται in particular, far too literally. Doubtless, at a sacrifice, when frankincense or casia had been thrown on the fire, the onlookers did not point to the normal smoke and say 'There is frankincense' or 'There is casia'; nor would the blazing fire itself be called by these names. But the odour of the spices, which became much stronger when they were burnt, would be called by the name of each spice; and this odour was in fact carried from the fire in the form of a thin smoke, the result of mixing fire with spices. When Xenophanes wrote (fr. 1, 7) ἐν δὲ μέσοισ' ἁγνὴν ὀδμὴν λιβανωτὸς ἵησι, it is surely legitimate to suppose that this ὀδμή might itself be called λιβανωτός: and that, since it is presumably emitted (ἵησι) as a result of mixture with fire,[1] the part of fire which has mingled in the warm scented vapour could be called by the same name. The whole concept of fire 'being mixed with' spices depends upon a naïve materialistic view of the process of burning: the warm vapour is regarded as an actual compound of portions of fire and portions of spice.

Other restorations of the missing substantive have been suggested. Zeller's ἀήρ is patently inappropriate. θύωμα, which could easily be omitted before θυώμασιν, has more to be said for it. The situation would differ from that in the image used by the Sethians, where one tries to analyse the individual ingredients in a mixture of scents; in this case καθ' ἡδονὴν ἑκάστου should probably be interpreted as meaning 'according to each man's pleasure (*or* taste)' and not 'according to the savour of each θύωμα'. Thus everyone who experienced this mixture of scents would name one element, which to him was the most obtrusive, as constituting the whole. The change in names applied to the mixture would be arbitrary, yet no name would be entirely false, describing as it does a part of the whole. This would imply that god could in the same way be called by the names of various pairs of opposites, according to one's

[1] Cf. Theophr. *de odor.* 12 τὰ δὲ καὶ πυρώσεως [sc. προσδεῖται] ὥσπερ ἡ σμύρνα καὶ ἡ λιβανωτὸς καὶ πᾶν τὸ θυμιατόν. Also Homer, *Il.* I, 317 κνίση δ' οὐρανὸν ἷκεν ἑλισσομένη περὶ καπνῷ.

subjective preferences at the time; yet god is the whole mixture, and these names only describe one aspect of him. The change would be a nominal one. This gives a plausible sense to the statement about god, and the only drawback to this explanation is the nature of the image from spices, which is surely very far-fetched. Was it customary for spices to be mixed together and then for different people to apply a single name to them? (Note that this is the opposite situation to the hypothetical one in fr. 7, where Heraclitus says that if all things were reduced to the single visual appearance of smoke, yet the nostrils would smell out differences between them.) Without further description and limitation this image is difficult to accept. Another restoration, that of οἶνος, shares the advantage that this word could easily have dropped out (by confusion with the very similar letters -σιν ὄν-), and has the additional merit of making the image readily understandable. The custom of flavouring wine with various kinds of herb was common in Greece: cf. Theophrastus *de odor.* 8ff. This kind of wine was called 'scented', e.g. οἶνος ἀνθοσμίας at Aristophanes *Frogs* 1150; *Plutus* 807; Xenophon *Hell.* VI, 2, 6. Other passages of this type are gathered by K. Becker, *Charikles*[2] II, 342ff., and mentioned by Nestle in ZN 834 n. The clearest indication that adjectives derived from the names of different spices were attached to οἶνος is given by Dioscorides, *Mat. med.* V, 27ff., where οἶνος ῥοδίτης, μυρτίτης, ἀψινθίτης, κυπαρίσσινος, and other types are mentioned. Thus god would in this case be equated with the wine, and receive the name of different pairs of opposites which represent the spices. The analogy is not exact, however, since the word οἶνος appears to have been invariably mentioned, and the adjectives from the spices did not achieve the status of substantives; in the case of the opposites, however, θεός is not normally mentioned. Another objection is that wine, even if mixed with spices, is not free from a specific taste of its own but varies quite apart from the variation of other ingredients which may be mixed with it: while the point about god and the opposites is presumably that god does not change in essence, but is merely seen in different aspects.

An explanation on somewhat similar lines has been advanced in detail by H. Fränkel in the article already cited. He bases himself on Heidel's suggested restoration μύρον (*Proc. Amer. Acad. Arts* 48 (1913) 704–8), and thinks that the image refers to the preparation of unguents; but instead of supplying μύρον, which refers to the finished

product, he supplies ἔλαιον, the base to which specific spices were added. θύωμα need not mean 'incense', i.e. spice specially for burning: it can also mean the same as ἄρωμα, namely, the scented spice which is used for making unguents, or as μύρον, the unguent itself. Of the passages which Fränkel cites in support of this contention the most striking are Homer *Il.* XIV, 172 ἐλαίῳ . . .τό ῥά οἱ τεθυωμένον ἦεν; Semonides fr. 14 Diehl κἠλειφόμην μύροισι καὶ θυώμασι καὶ βακκάρι; and Hesychius' gloss, θύωμα· μύρον, ἄρωμα. In the present case θυώμασιν would refer to the scenting ingredients which were mixed with oil to form different kinds of unguent. It stands to reason that the oil which formed the base of these scents should itself be as odourless as possible; as Theophrastus said at *de odor.* 18, δεῖ γὰρ ἀῶδες εἶναι τὸ δεξόμενον. Fränkel thinks that this provides an excellent parallel to the working of god in the world: he is totally unspecific, but assumes different forms; it is these forms which men perceive and to which they attach names, just as in the names of unguents the words ἔλαιον or μύρον were often omitted, as at, for example, Aristophanes *Knights* 1332, σμύρνῃ κατάλειπτος. He suggests that there may be an additional significance in the comparison, and cites a passage of Plutarch (*de tuenda san.* 10, 127b) to the effect that as flower-scents are themselves weak, but derive strength and vigour from being mixed with oil, so the substratum of objects provides substance and body for their external attributes. Thus Heraclitus may have meant that god gave force and reality to the opposites. (This of course is pure conjecture: so is Fränkel's hypothesis, p. 239f., that Plato *Timaeus* 50Aff. is dependent upon Heraclitus. The simile of the golden figures is quite different from Heraclitus fr. 90, nor does the use of the verb μεταπίπτειν show that Plato necessarily had him in mind.) At 50E Plato uses a simile derived from the preparation of unguents, where he too stresses the fact that the liquid base should be as odourless as possible. Thus Fränkel builds up a complex and, as far as it goes, well-documented case for the appropriateness of ἔλαιον, and has won over Snell (*Heraklit*, Tusculum-Bücher series, 2nd ed. 1940) from the side of Diels' πῦρ. He may well be right. Yet the relative improbability of ἔλαιον being lost from the text, and the fact that no parallel exists as early and as striking as the Pindar parallel for πῦρ, persuade me to take the conservative side and adhere to Diels' restoration. Some of Fränkel's conclusions and deductions are indeed too adventurous: he is misled by his concept of

Heraclitus as a metaphysician, and it is surprising, after his diversion on the *Upanishads* (pp. 241 ff.)—always a danger signal in Heraclitus-studies—that he returns to as sound a summary of the general force of fr. 67 as appears on pp. 243–4. For the fact is that whether it is fire or oil that is said to be mixed with spices, the implication of the image is the same: that god is the neglected but all-important substratum (to use an anachronistic but convenient term) of all differentiation in the world, and that he provides the link between the various pairs of opposites in terms of which all change can be analysed.

Diels, *Herakleitos*[2] ad fr. and in editions of *VS*, drew attention to the brachylogy of the simile and referred (as Kranz, Walzer and others still do) to Vahlen's commentary on the *Poetics* (3rd ed.) p. 275; but Vahlen is referring to the particular kind of condensation which occurs in images introduced by the negative phrase οὐχ ὥσπερ. This is of little relevance here. For condensation in successive negative clauses, though not in the case of a simile, the best parallel in Heraclitus is fr. 94 ἥλιος . . .οὐχ ὑπερβήσεται μέτρα· εἰ δὲ μή. . . . At any rate this kind of condensation shows that Heraclitus was not always (as Fränkel implied him to be) fully explicit and logical in his syntax: I have already remarked (p. 51) on the considerable concentration of the syntax of fr. 114. In fr. 67, of course, the brachylogy consists in saying that 'god changes in the way that fire. . .is named. . .'.[1] The adverbial phrase καθ' ἡδονὴν ἑκάστου qualifies πῦρ. . .ὀνομάζεται—this is shown, if by nothing else, by the use of the word ἡδονή meaning 'taste' or (more generally) 'flavour': but in sense it must qualify both ὀνομάζεται and ἀλλοιοῦται. In isolation the phrase could mean 'according to each man's fancy': but I have already pointed out that in the circumstances of the simile this would present a very unusual state of affairs; and in view of the use of ἡδονή as 'flavour' by Anaxagoras (fr. 4), Diogenes of Apollonia (fr. 5) and the author of the Heraclitizing part of *de victu* (I, 23), this same meaning is to be preferred here. Thus god changes according to the particular character of each pair of opposites just as fire is named according to the particular scent of the spice with which it mingles. This is the literal meaning of the saying, and there is no reason to deny that this meaning was intended by Heraclitus. Yet it is probable that the wording of the image reflects something

[1] See Calogero, *Giorn. Crit. della Filos. Ital.* 17 (1936) 218, whose reasoning on this point, however, is not absolutely clear.

beyond the literal correspondence, which he felt about ὁ θεός. Most critics have interpreted ἀλλοιοῦται in the light of ὀνομάζεται, as though the change consisted in a change of name. This supposition may be justified in view of Heraclitus' attitude to names, which is (judging from frr. 32, 48) that they represent something real, but not necessarily the whole truth about an object. Thus in fr. 48 the contrast between the bow's name (life) and its function (death) is not entirely a verbal one, or the philosopher would presumably have had little motive for mentioning it. This is another example of the coincidence of opposites: the name is not just false and deceptive, it represents something valid about the bow, though this something is not comprehensible in terms of the bow's normal activity; it is part of the underlying unity of things. In fr. 32 'the only wise thing', which must partially at least coincide with the θεός of this fragment 67, is in one way willing, in another unwilling to be called by the name Zeus: for 'Zeus' corresponds with some of the attributes of the only wise, but also brings with it some connotations (i.e. details of the Homeric anthropomorphic picture) which are foreign, and lacks others which are essential to it. If the name were just mere noise, φωνῆς μόριον (Plato *Cratylus* 383 A), there would be no need to make this statement about the name Zeus; but for Heraclitus there is a real and essential connexion between the name and the thing named, though the nature of this connexion is not explored. The same is true of Parmenides (see Diels *Parmenides' Lehrgedicht* (Berlin, 1897) 85), in so far as utterance (φάσθαι, φατίζειν) and thought of anything but what is, is said to be impossible (e.g. fr. 8, 8; 8, 35): but there the word ὄνομα is beginning to take on the connotation 'appearance, delusion' (fr. 8, 38), although the ὄνομα has a core of truth, and the delusion consists in making the application of the name too wide (e.g. fr. 8, 53 ff.) or too narrow. The latter is certainly the fault of names in Heraclitus: Snell was right in saying (*Hermes* 61 (1926) 368) that 'Der Name hebt nur eine Erscheinung gesondert heraus und zerstört darum das Wesentliche. Und darum ist der Gott sowenig in einem Namen zu fassen wie das Feuer, wenn man es Myrrhen oder Weihrauch nennt';[1] though see p. 118.

[1] This interpretation is accepted by Heinimann, *Nomos und Physis* 54, and Calogero *loc. cit.*, who rightly rebukes Kranz for his comment on ὀνομάζεται in DK, 'der Name bezeichnet gerade nicht die Sache vgl. B 23. 32. 48, Nestle *Philolog.* 67 (1908) 536'.

Thus it may be correct to infer that just as it is erroneous to call the odour of burning myrrh simply 'myrrh' (ignoring the all-important ingredient fire)—but not actually false, for the name corresponds with a part though not the whole of the object—so it is misleading though not false to call god by the name of a particular pair of opposites. God *is* that pair of opposites, but he is all other categories of opposite too, as may be inferred from the first part of the fragment. The only kind of change which he undergoes is that of being identified with one or other pair of opposites at different times. Here a difficult point of interpretation presents itself: does the change which god undergoes refer to the change from one pair of opposites (or genus) to another, or from one extreme of a pair of opposites to the other, or to both? This is not a fully legitimate question in that Heraclitus may not have defined the application of ἀλλοιοῦται (or whatever verb this represents) so precisely; yet one type of change must have been more in his mind than the other, or the combination of the two types more than either single type. In the discussion above it has been assumed that change from one genus to another was in question, perhaps to counterbalance the usual assumption among modern critics that the change referred to is between separate extremes. Here the simile may give a guide, though there is no need for the correspondence to be total. The literal point of comparison is that god (who is day night, winter summer, war peace, satiety hunger) changes, and fire (when mixed with spices) is named, according to the characteristic of each. The different spices are not related to each other as extremes, yet they are indubitably objects belonging to the same genus. This does not help very much to determine whether ἀλλοιοῦται, with reference to god changing, applies to the extremes day and night, etc., or to the different pairs of opposites, day-night, winter-summer, etc. Yet these pairs themselves belong to a single higher genus. What happens at a sacrifice is that first one, then another, then another kind of spice is cast upon the fire: there is no limit, theoretically, to the number of different savours that can be produced—but if the changes of god were changes between opposites, only *two* characteristics, the two extremes, could be assumed in each class. The same conclusion, that god's changes are between pairs of opposites or genera and not between the opposites themselves, is suggested by the word ἀλλοιοῦται. This, as it stands, means 'becomes of a different kind':

it is not a verb which would normally be used for change between opposites (although it is so used at Plato *Theaetetus* 181D), except in so far as all change can be analysed in this way. At all events the meaning of ἀλλοιοῦται cannot be restricted to this type of change, although it may include change between opposites *and* between classes of opposites, i.e. between summer and winter, war and peace, *and* summer-winter and war-peace. The safest course, perhaps, is to assume that both these kinds of change are implicit in the fragment.[1] It is not easy to see precisely in what way god was named according to the characteristic of different opposites. Perhaps the meaning is that if one type of change became particularly important because of the predominance of one extreme, god was identified especially with events of this kind: for example, if there were a famine, people would pray to the god of satiety, they would hold god responsible for the famine and neglect his operation in other kinds of natural event. So too god might be identified at different periods with different extremes: in war it is the war-god who is all-important, and who in a polytheistic system tends to usurp the devotion usually offered to the other gods; in peace men turn their prayers and sacrifices to a divinity whose special function is the support and protection of peaceful pursuits. As far as the actual naming goes, Nestle, *Philologus* 67 (1908) 536 (cf. ZN 834), has aptly referred to the concept summarized at Plato *Cratylus* 400E, ὥσπερ ἐν ταῖς εὐχαῖς νόμος ἐστὶν ἡμῖν εὔχεσθαι, οἵτινές τε καὶ ὁπόθεν χαίρουσιν ὀνομαζόμενοι [sc. οἱ θεοί], ταῦτα καὶ ἡμᾶς αὐτοὺς καλεῖν. In the same way men use the particular epithet of their chief divinity which they think most suitable to the circumstances of the moment. There may be a reminiscence of this fragment in a Stoicizing passage in Plutarch *de E* 9, 388F: ὁ θεός...ἄλλοτε δὲ παντοδαπὸς...γιγνόμενος, ὡς γίγνεται νῦν, κόσμος ὀνομάζεται δὲ τῷ γνωριμωτάτῳ τῶν ὀνομάτων.

To turn away from details of interpretation: what is the significance of the fragment in the whole scheme of Heraclitus' beliefs about god on the one hand, and the opposites on the other? Strictly of course this distinction between the two is unjustified: god is the opposites,

[1] This is evidently the conclusion of Gigon 147, who writes: '...es handelt sich nicht um den Umschlag einer Gegensatzhälfte in die andere, sondern um das Hineintreten des Gottes in die Gegensatzwelt.' And a few lines later: 'Der Gott mischt sich bald mit Tag, bald mit Nacht und heisst nach ihnen Tag oder Nacht.'

though in other fragments about the deity Heraclitus does not entirely escape from the language of anthropomorphism. Here we learn that god is inherent in the world, that he underlies all change, and that he provides the essential unity of things which is elsewhere called the Logos. Presumably god has no separate existence outside the phenomenal world—to this extent Heraclitus can be called a pantheist. Yet the examination of his other fragments suggests that he was not greatly interested in religious speculation as such, that he tended to express his discovery about the nature of things in logical rather than in religious terms, and that he only occasionally diverged to express his idea of the Logos in terms of the highest monotheistic thought of his day. Here Gigon was right in emphasizing his dependence on Xenophanes. The chief importance of the fragment lies in what it tells us about the opposites and their relation to each other; that is why I have treated it (like fr. 102) in this group, and not with other assertions about the deity. Once again the essential unity of opposites is asserted: just as the differentiation of the scent of burnt offerings depends upon a common element in them all, and one which is usually left unspecified, so all differentiation in the world is dependent upon the underlying connexion, and all the pairs of opposites and all the extremes in these pairs are ultimately but facets of the underlying unity, whether it be called god or the Logos (or even perhaps fire). From the logical point of view this fragment is exceptionally important, because it bridges the gap between different categories of opposite. In the fragments of previous groups Heraclitus has presented a variety of arguments to show that there is an essential connexion between apparently opposed extremes, in various continua of quality: but he has not succeeded in relating the different continua, and thus showing that his unity is universal. In this fragment he does this: god is all the opposites, and the changes he undergoes are changes from one type of opposite (or genus) to another, as well as between extremes. He is the unity which extends to all parts of the phenomenal world.

GROUP 7

Frr. **51** [+ 8D], **54**, **123**, **7**

This group consists mainly of general statements of the connexion between all things, making explicit some of the presuppositions of earlier groups. Two special aspects of this connexion are emphasized. First, and looking ahead to the sayings of Group 8, the dynamic nature of the apparent stability or tension between opposites is stressed by the image of the stretched bow and lyre (fr. 51). Secondly, the hidden or under-the-surface nature of this universal connexion is the theme of frr. 54 and 123. Fr. 7 is a hypothetical specific example of the fact that unity and plurality can coexist in this way; it puts a case where the unity or connexion would be the superficial aspect, while the differentiation lies beneath the surface. If this could happen then the converse may be true.

51

(45, 56B)

Hippolytus *Refutatio* IX, 9, 1 (p. 241 Wendland) Ἡράκλειτος μὲν οὖν φησιν εἶναι τὸ πᾶν διαιρετὸν ἀδιαίρετον . . .· οὐκ ἐμοῦ ἀλλὰ τοῦ λόγου ἀκούσαντας ὁμολογεῖν σοφόν ἐστιν ἓν πάντα εἶναι, ὁ Ἡράκλειτός φησι (fr. 50). καὶ ὅτι τοῦτο οὐκ ἴσασιν πάντες οὐδὲ ὁμολογοῦσιν ἐπιμέμφεται ὧδέ πως· **οὐ ξυνιᾶσιν ὅκως διαφερόμενον ἑωυτῷ ξυμφέρεται·**[1] **παλίντονος**[2] **ἁρμονίη ὅκωσπερ τόξου καὶ λύρης.** ὅτι δὲ λόγος ἐστὶν ἀεὶ τὸ πᾶν καὶ διὰ παντὸς ὢν οὕτως λέγει (seq. fr. 1).

1 ὁμολογέειν cod.; ὁμολογέει Miller, Wendland, Diels, Kranz; ὁμολογεῖ ἓν coni. Diels; συμφέρεται Zeller, Brieger (*Hermes* 39 (1904) 198), Gigon, Walzer, cf. Plato *Soph.* 242E, *Symp.* 187A; fr. 10. 2 παλίντροπος cod., Plutarch 473F (codd. pr. D), 1026B; παλίντονος Plutarch 369B, 473F[D]; Porphyrius *de antr. nymph.* 29.

Heraclitus, then, says that the All is divisible and indivisible . . .: 'listening not to me but to the Logos it is wise to agree that all things are one' (fr. 50), says Heraclitus; and that they all ignore this and do not agree he complains in words like these: They do not apprehend how being at variance it agrees with itself: there is a connexion working in both directions, as in the bow and the lyre. *And that Logos is always the All and exists for ever he says in these words: (fr. 1 follows).*

The subject of the first sentence is to be understood as οἱ ἄνθρωποι or perhaps οἱ πολλοί: cf. frr. 1, 56 (ἄνθρωποι, οἱ ἄνθρωποι); 17, 29 (πολλοί, οἱ πολλοί). Other fragments attacking the generality of men, in which no subject is specified, are frr. 15, 20, 23, 72, 104: in some of these the grammatical subject perhaps belonged to a previous sentence which has not been preserved; but Heraclitus' attacks on men in general were doubtless so manifold that a plural verb alone, together with a critical tone, would be sufficient to show who were in question. οὐ ξυνιᾶσιν corresponds with ἀξύνετοι in fr. 1; cf. also fr. 34. Snell, *Ph.U.* 29 (1924) 47, was probably right in emphasizing that συνιέναι properly means 'to take in, to assimilate to oneself'

something that is presented to one, e.g. by the senses, rather than simply 'to understand' with its connotation of a primarily intellectual effort of synthesis; so men are continually surrounded with evidence of the Logos, but they do not take it in. Gigon 22 pointed to the similarity of the reproachful opening of this fragment with that of Hesiod, *Erga* 40 νήπιοι, οὐδὲ ἴσασιν.... Semonides fr. 29, 10 Diehl and Empedocles fr. 11, 1 may be influenced by this well-known line, and so may Heraclitus also.

It was Zeller (ZN 827 n. 1) who first maintained that the ms. reading ὁμολογέειν is a mistake caused by the occurrence of this verb twice in the preceding two sentences, and that an original συμφέρεται (or ξυμφέρεται) should be restored from two Platonic passages, one of which certainly and the other probably refers to this fragment. The first of these is *Symposium* 187 A, μουσικὴ δὲ καὶ παντὶ κατάδηλος τῷ καὶ σμικρὸν προσέχοντι τὸν νοῦν ὅτι κατὰ ταὐτὰ ἔχει τούτοις, ὥσπερ ἴσως καὶ Ἡράκλειτος βούλεται λέγειν, ἐπεὶ τοῖς γε ῥήμασιν οὐ καλῶς λέγει. τὸ ἓν γάρ φησι "διαφερόμενον αὐτὸ αὑτῷ συμφέρεσθαι ὥσπερ ἁρμονίαν τόξου τε καὶ λύρας". ἔστι δὲ πολλὴ ἀλογία ἁρμονίαν φάναι διαφέρεσθαι ἢ ἐκ διαφερομένων ἔτι εἶναι. Eryximachus the doctor, who is the speaker, goes on to make it absolutely clear that he is taking Heraclitus' ἁρμονίαν in a musical sense, and in our sense of 'harmony'; he declares that ἡ γὰρ ἁρμονία συμφωνία ἐστίν. Now ἁρμονία does not develop a technical musical meaning until the period of early fifth-century lyric, and this meaning is not widespread before the fourth century; even then it normally means 'musical scale' (derived from the *method of stringing*), i.e. a succession of notes. Plato (but cf. *Rep.* 431 E) is unique in equating the word with συμφωνία, which is normal Greek for a concord or harmony in our sense. Thus Plato (for we cannot put all the blame on his character Eryximachus) is guilty of having misinterpreted Heraclitus on this point. It will also be noticed that Plato supplies τὸ ἕν as the subject of διαφερόμενον . . . συμφέρεσθαι. This is not certainly the case in the other passage, *Sophist* 242 D, E Ἰάδες δὲ καὶ Σικελαί τινες ὕστερον Μοῦσαι συνενόησαν ὅτι συμπλέκειν ἀσφαλέστατον ἀμφότερα καὶ λέγειν ὡς τὸ ὂν πολλά τε καὶ ἕν ἐστιν, ἔχθρᾳ δὲ καὶ φιλίᾳ συνέχεται. διαφερόμενον γὰρ ἀεὶ συμφέρεται, φασὶν αἱ συντονώτεραι τῶν Μουσῶν· αἱ δὲ μαλακώτεραι κτλ. Here the whole passage is concerned with differentiation out of the One, and it is possible to supply either τὸ ὂν or τὸ ἓν as the subject of the phrase attributed to

'the more severe Muses', who of course represent Heraclitus. In the earlier *Symposium* passage the supplying of τὸ ἕν as subject is in no way required by the context. Yet presumably Plato there tended to apply the same sort of analysis to Heraclitus as he later more explicitly applied in the *Sophist*, taking the opposite participles as referring to the whole cosmos as a unity: by treating Heraclitus and Empedocles as offering different but comparable explanations of a world-process he was forcing this specialized interpretation upon himself. It is most improbable that Heraclitus himself ever talked of τὸ ἓν or τὸ ὄν: elsewhere we hear of τὰ πάντα, or of specific descriptions of this κόσμος like πῦρ ἀείζωον. The participle is of universal application: anything which is διαφερόμενον is also συμφερόμενον, and the whole sum of things is no exception to this rule. Plato's interpretation is therefore understandable. Thus these passages are not valueless, and though they should not be used as evidence that τὸ ἓν was originally subject of the first part of fr. 51, yet taken together they strongly suggest that in the version known to Plato (which, admittedly, he would not necessarily quote with great accuracy) συμφέρεται and not ὁμολογεῖ was the main verb. It is of course conceivable that he substituted συμφέρεται from συμφερόμενον διαφερόμενον, one of the pairs of opposed predicates of συλλάψιες in fr. 10. Yet αὐτὸ αὑτῷ in the *Symposium* passage suggests a clear reminiscence of ἑωυτῷ in the original saying. And quite apart from Plato, ὁμολογεῖ does not seem suitable. In fr. 50 it has a special meaning which is partly dependent upon the hidden word-play between -λογεῖν and λόγος: the sense is 'it is wise to listen to the Logos and to say-the-same-as-the-Logos, that all things are one'. There is naturally no such motive in fr. 51; on the contrary, Heraclitus was by no means averse from using cognate forms with opposed prefixes to express strictly opposed ideas, and συμφέρεται is what we should expect after διαφερόμενον, as in fr. 10. There the two participles are predicates: they represent opposite analyses which can be made, at any time, of continua of quality. Here the subject probably lies within one of the verb-forms, and the equivalence of the two processes which they represent is stated as a general rule; but as all opposites (and thus all things absolutely) can be regarded as subject to these processes, there is no disparity with fr. 10 (*contra* Gigon 22). A further possible objection to ἑωυτῷ ὁμολογεῖ meaning 'correspond *or* agree with itself' is that

there may be no other sure case in which the verb bears this meaning, unless the idea of correspondence *of words* is present. Such an idea is certainly not present in fr. 51. Of the passages quoted in LSJ s.v., IIa, only two appear to break this rule: Hdt. VI, 54 ὁμολογέοντας κατ' οἰκηϊότητα Περσέϊ οὐδέν, and Lysias XX, 12 ὥστε μηδὲν ὁμολογεῖν τὼ τρόπω τὼ ἀλλήλων. In these passages, however (also Hdt. II, 18; II, 81), the verb refers not to exact correspondence but to any kind of contact or similarity; probably by extension, though there is no theoretical reason why the -λογ- constituent of the verb should not occasionally mean 'proportion, explanation' rather than 'word'. In fr. 51 it might be possible to treat this constituent as referring, as in fr. 50, to the Logos, were it not for the word ἑωυτῷ, which shows that absolute internal agreement is in question. In view of all these considerations, together with the fact that ὁμολογεῖν was naturally, after fr. 50, in Hippolytus' mind when he wrote out the second quotation from Heraclitus (note that he uses it as a link between the two quotations, in paraphrasing οὐ ξυνιᾶσιν: οὐκ ἴσασιν πάντες οὐδὲ ὁμολογοῦσιν), there seems to be justification for restoring ξυμφέρεται to the text of the fragment in Hippolytus, who certainly reproduces it in its fullest form.

If τὸ ἕν is not to be supplied as the subject of ξυμφέρεται, what is the subject? Zeller, ZN 827 n. 1, suggested that it lies within the participle, which therefore stands for ⟨τὸ⟩ διαφερόμενον. In Heraclitus this is by no means impossible; in fr. 88 neuter participles are probably used substantivally without the definite article, and in fr. 126 the same is the case with neuter adjectives. From the available evidence Heraclitus' practice varied in this matter. On the other hand, it is at least equally possible that the subject lies within the main verb, where later Greek would supply a τι. The omission of the indefinite pronoun is fairly common in the early language: but *Agamemnon* 71, *contra* the scholiast, Wilamowitz and Fraenkel, is not a good example of the usage. Eduard Fraenkel's note on this line (*Aeschylus, Agamemnon* II, p. 44f.) mentions the relevant authorities, and compares lines 391ff. of the same play. It is impossible to decide with certainty between these alternatives; the further possibility must always be considered, that the true subject lay outside the fragment and has been lost—although the opening reproach suggests that the fragment as we have it did not lead directly on from any preceding statement. One thing is clear, that

the statement implicit in the ὅκως clause is of general, if not of universal, application: it states a truth about anything which can be regarded as 'at variance with itself',[1] and we know from fr. 10 that all 'things taken together', that is, all apparent opposites, are superficially so regarded.

The second part of the fragment also has its difficulties. First the nature of its relationship with the first part may be discussed: does παλίντονος ἁρμονίη stand directly for the subject of συμφέρεται, or does it describe the way in which this subject undergoes the action of διαφερόμενον–συμφέρεται? In other words, should the translation be '*it is* a π. ἁ.' or '*there is* a π. ἁ.'? Logically the first is, I think, impossible: that which is at the same time at variance and in agreement with itself (regarded from different points of view) cannot itself be said to *be* a connexion or method of joining; rather it is susceptible to these opposing descriptions because there is such a connexion between such descriptions. Thus the second part of the fragment goes on to describe not so much the subject of συμφέρεται as the opposing conditions of that subject.

ἁρμονίη has been translated above as 'connexion' or 'method of joining', and this must be the meaning here. The noun is of course derived ultimately from the root αρ- (cf. ἀραρίσκειν), 'fix' or 'join'. In the fifth book of the *Odyssey* it occurs twice, meaning a joint or fastening, something like γόμφος: while at *Il.* V, 60 Ἁρμονίδης is described as a carpenter and shipbuilder. The only Homeric passage where ἁρμονίη has anything but this strictly material sense is *Il.* XXII, 255, where the plural is used metaphorically meaning 'agreements'; in the Homeric *Hymn to Apollo* 195 and Hesiod *Theogony* 937 the personified Ἁρμονίη may in part symbolize agreement between men. This last cannot be the meaning here, since it would be

[1] In the treatment of fr. 10 διαφερόμενον is translated in a more concrete and dynamic way, as 'being brought apart', and συμφερόμενον as 'being brought together'. In this fr. 51 the presence of ἑωυτῷ, and the fact that Hippolytus could subconsciously paraphrase by ὁμολογέει (although this only tells about *his* interpretation), shows that the meaning is more abstract—though in the case of the bow and the lyre, which are intended to illustrate this statement, the concrete meaning descriptive of local motion must be understood. The difference is not important; the translation of fr. 10 is to some extent arbitrary, because what is referred to is not at all concrete, a type of mental analysis. The important thing is that the possibility of these two slightly different senses should not be overlooked.

nonsense to talk about peace or agreement of bow and lyre: interpretations like those of Lassalle I, 105ff.; Pfleiderer, *Die Philosophie des Heraklit* 89ff.; Joel, *Geschichte der antiken Philosophie* I, 316, which assumed a ἁρμονίη *between* bow and lyre (instruments typifying Apollo's dual function as a god of war and of peace), are implausible because they cannot be reconciled with the first part of the fragment. It has already been mentioned that the word has a musical application in lyric poetry; Pindar, *Nem.* IV, 44f., wrote: ἐξύφαινε, ...φόρμιγξ, Λυδίᾳ σὺν ἁρμονίᾳ μέλος...: cf. also Pratinas fr. 4b Diehl, Lasus fr. 1 Diehl, mentioning the Αἰολὶς ἁρμονία. Thus by the early part of the fifth century, when Heraclitus was active, ἁρμονία had assumed the technical meaning 'scale' or 'mode'; yet these words are perhaps too abstract, for the scale is dependent upon the method of stringing (i.e. the tautness of each separate string), and this is the same as the method of joining the two arms of the lyre. Thus the musical sense of the word simply involves a specialized application, but no significant extension, of what we have seen to be the basic meaning of the word, namely, 'means of connexion'. Yet in spite of the mention of the lyre in this fragment, it is out of the question that ἁρμονίη should have its special musical application here; for this would be totally unsuitable to the other object of comparison, the bow. Nor is it easy to accept Zeller's suggestion (ZN 828f.) that Heraclitus attached different meanings to ἁρμονίη in the case of the bow and the lyre, perhaps unconsciously. Surely the matter is quite simple: the ἁρμονίη is something which is common to both the bow and the lyre; one of the common elements of these two instruments is the presence of the taut string; the string or strings can be regarded as the method of joining or connecting the extremities of the bow or lyre, and 'means of joining' is the basic meaning of the word ἁρμονίη. Therefore the overwhelming probability is that in this fragment ἁρμονίη means just this, and refers primarily to the string of the bow and the strings of the lyre. It may be noted that Empedocles uses the word four times, but never in a musical sense and three times simply with the meaning 'joining'; on the fourth occasion (fr. 122, 2) Ἁρμονίη is a personified figure opposed to Δῆρις. The other fragment in which Heraclitus used the word is fr. 54 of this Group 7; there it also means simply 'connexion' in general. Fr. 8 is an Aristotelian paraphrase (see p. 220), but the sense of ἁρμονίαν could be a purely general one. The musical instance of

different (i.e. high and low) notes making up a single ἁρμονία or scale, involving the succession of notes, is cited in connexion with Heraclitus first in the *Eudemian Ethics*, H 1, 1235a25 (DK 22A22), then in *de victu* I, 18, then preceding fr. 10 at *de mundo* 396b15. Gigon 117 thinks that the first of these passages cannot reproduce the thought of Heraclitus himself, and he may well be right: probably the musical instance was used by followers or elaborators of Heraclitus; the non-Aristotelian passages depend either on them or perhaps simply on the information of the *Eudemian Ethics*. On Plato *Symposium* 187A, B see p. 204.

There is, however, another property which the bow and the lyre sometimes have in common, and that is their shape: the stretched bow (and to some extent the strung but unstretched, and even certain types of unstrung bow) has a rough horse-shoe shape similar to that of the lyre. Can this be, as some have thought, the reference of ἁρμονίη in this fragment? It may be said at once that this word cannot itself refer to a shape, and the only way in which it can be connected with this idea is by placing all the emphasis on its epithet and making this refer to shape. Yet even if this is the meaning of the epithet it is extremely hard to see how there can be any connexion whatsoever between διαφερόμενον συμφέρεται and the horse-shoe shape of the bow and the lyre, let alone the significant connexion which we expect of an image employed by Heraclitus. To suggest as Bernays did (*Ges. Abh.* I, 41) that the 'connexion' is the central member into which in some bows two horn-like extremities were fitted, which has its counterpart in the sounding-box of the lyre, is surely somewhat far-fetched; in addition, it is not the connexion itself, but the connected arms which are παλίντροπος or παλίντονος; and finally the bearing of the whole simile on the preceding sentence would still be obscure. Diels had another and more plausible explanation which again took into account the shape of both instruments: the arms of the Scythian bow and of the lyre 'streben auseinander wie Dachsparren'. Now it is true that rafters have roughly the same shape, and that they are under tension in such a way that if one rafter is removed the other (and whatever they support) will collapse. Praechter, *Philologus* 88 (1933) 342ff., has followed up Diels' reference (*Herakleitos*² 28) to Alexander as cited by Elias in his commentary on the *Categories*, p. 242, 14 Busse, and discovered other passages to show that the image of λαβδοειδῆ ξύλα

was quite commonly used as an illustration of the πρός τι relationship in Aristotle; he quotes Simplicius *in Cat.* p. 412, 20 Kalbfleisch as an indication that this image of complementary rafters, etc., was connected specifically with Heraclitus. This passage is as follows: Ἀριστοτέλης μὲν καθ' ὑπόθεσιν ἔλαβεν τὸ πάντας ὑγιαίνειν καὶ πάντας λευκοὺς γενέσθαι, τὸ μὴ ἐξ ἀλλήλων ἠρτῆσθαι τἀναντία ὥσπερ τὰ πρός τι δηλῶν. οὐ συγχωρήσουσι δὲ ὅσοι τἀναντία ἀρχὰς ἔθεντο, οἵ τε ἄλλοι καὶ οἱ Ἡρακλείτειοι· εἰ γὰρ τὸ ἕτερον τῶν ἐναντίων ἐπιλείψει, οἴχοιτο ἂν πάντα ἀφανισθέντα. In fact this merely makes the point that according to Heraclitus opposites were interdependent, like (Simplicius adds) relative properties; but the words ἐξ ἀλλήλων ἠρτῆσθαι as applied to the latter suggest other passages in the commentators, in which the image of the rafters was used. Praechter tries to be cautious in his deductions from these possible connexions, and suggests that later Heracliteans may have had a hand in the development of the rafter-image for illustrating the dependence of separate opposites; but in general he supports Diels' interpretation of fr. 51. The complicated character of Praechter's article should not lead its readers to accept his conclusions too readily. The evidence is at best tenuous, and the underlying presupposition that the bow and the lyre behave in the same way as rafters is totally false. Rafters press together at the point of junction, while the other instruments pull apart from it; in the latter case there is no particular mechanical strength in the relationship, and the necessity of the existence of one arm of the bow or lyre for the existence of the other is not something which particularly deserves comment. In their case the tension is directed towards the string, which has no exact counterpart in the case of rafters. Further, it is strange that Simplicius (who cites the comparison with the bow and lyre, but in connexion with Heraclitus' supposed equation of good and bad, at *in Phys.* p. 50, 11 Diels) did not mention the bow or lyre in the *in Cat.* passage if this was the standard interpretation of fr. 51 at his time. But whatever the later interpretations of this fragment we may safely discard this view of the meaning of Heraclitus himself, on the grounds that it is obscure, inappropriate to the structure of the instruments in question, and neglectful of their common and most obvious characteristic.

The exact interpretation of the image may be postponed for a while in favour of a discussion of the variants παλίντροπος and

παλίντονος. Diels was clearly right in calling them ancient variants: Hippolytus has -τροπος; Plutarch has -τροπος at 1026B and -τονος at 369B, while at 473F one manuscript, D, gives -τονος and the rest (including the other members of D's family) give -τροπος. Porphyrius, *de antr. nymph.* 29, has παλίντονος in a clear reference to this fragment: καὶ διὰ τοῦτο παλίντονος ἡ ἁρμονίη ⟨ὥσπερ λύρας⟩ καὶ τόξου εἰ διὰ τῶν ἐναντίων [τοξεύει codd., τόξου εἰ Schleiermacher]. Thus there is nothing to choose between the two variants on the grounds of ancient testimony; the fact that Hippolytus gives the fullest version of the fragment and had access to a good collection of Heraclitus' sayings does not mean that his reading is necessarily to be preferred, since the other may have been current before his time. The divergence in texts of Plutarch may have been due to uncertainty by Plutarch himself. Diels referred to Parmenides fr. 6, 9, πάντων δὲ παλίντροπός ἐστι κέλευθος, as an indication in support of παλίντροπος in the Heraclitean fragment. Yet it is extremely uncertain whether this phrase and the context in which it occurs in Parmenides really form a deliberate reference to Heraclitus. Parmenides *may* have had Heraclitus among others in mind when he wrote ἄκριτα φῦλα | οἷς τὸ πέλειν τε καὶ οὐκ εἶναι ταὐτὸν νενόμισται | κοὐ ταὐτόν: but this is a very general description and certainly does not suit Heraclitus specifically. The παλίντροπος κέλευθος is even more general; a κέλευθος is very different from a ἁρμονίη, and παλίντροπος, even if it does not occur elsewhere among the Pre-socratics, is common enough in tragedy and by no means an obscure compound. Some scholars have thought that the reference, if it is to Heraclitus at all, is to the ὁδὸς ἄνω κάτω in fr. 60: but even if one accepts the conventional interpretation of that fragment as referring to the upward and downward path of fire, those alterations are not germane to Parmenides' 'being and not-being'. Theophrastus' references to an ἐναντιοτροπή or ἐναντιοδρομία of things (Diog. L. IX, 7; Aëtius I, 7, 22) depend upon his physical interpretation of the same fragment.

παλίντροπος has won the support of most scholars (though, for example, Zeller, Reinhardt, Gigon, have prudently refrained from committing themselves); it is accepted by Diels, Kranz in DK, Wilamowitz, *Gr. Lesebuch* II, 129, Nestle in ZN 829f.; on the other hand Brieger, Burnet and Walzer prefer παλίντονος. I believe that this last view is the correct one. Hirzel, *Unters. zu Cicero* II, 1,

159 n. 1, ingeniously suggested that Plato's humorous periphrasis for Heraclitus at *Sophist* 242E, αἱ συντονώτεραι τῶν Μουσῶν, following as it does on an almost certain reference to the first part of fr. 51, involves a punning reference to the idea of τόνος in παλίντονος in the second part of the same fragment, which he does not quote but might have expected his readers to have in mind. This must remain in the realm of speculation: a consideration of the actual usages of the two epithets may provide a surer support for παλίντονος. παλίντροπος is used twice by Aeschylus in lyrical passages, meaning 'averted' as applied to eyes or face: this cannot be the meaning in the Heraclitus fragment and may be ignored. In four passages it means 'turning back' or 'having turned back'—Sophocles *Phil.* 1222f. (. . .παλίντροπος | κέλευθον ἕρπεις); Euripides *HF* 1069 (lyr.) (παλίντροπος . . .στρέφεται); *A.P.* IX, 61 (παλίντροπος ἐκ πολέμοιο); and of course Parmenides fr. 6, 9 already quoted. At Sophocles fr. 576, 5 the ms. reading is as follows: μάστιγ' ἐρείσῃ τοῦ βίου παλίντροπον (παλίντροπον MA, πάλιν τρόπον S). Lobeck and Ellendt emended, almost certainly correctly, to πλάστιγγ', and Meineke read παλίρροπον in place of παλίντροπον: Pearson accepted this. Certainly this epithet is more attractive; on the other hand, Jebb was right in holding the ms. reading to be possible. Pearson comments that 'it would be difficult to find a parallel for παλίντροπον as here employed'; this is not altogether true, for LSJ quotes several parallel usages from later authors, e.g. Polybius XIV, 6, 6 (παλιντρόπου τῆς ἐλπίδος ἀποβαινούσης); V, 16, 9; Diodorus Siculus XV, 85, 7. Evidently 'contrary' as a description of successive events or results (not of shape) was a common enough meaning for παλίντροπος in Κοινή: this may explain the manuscript reading in the Sophocles fragment, in place of an original παλίρροπος. In any case 'contrary' *in this sense* would scarcely be an appropriate epithet for a ἁρμονίη if this means 'method of connexion'—still less if it refers to shape. Yet this must be how Diels understood it, for he translated 'gegenstrebige Vereinigung', a translation which has been widely approved; though this sense goes beyond even the Κοινή meaning. There is no other known meaning of παλίντροπος (Bacchylides 11, 54 Snell παλίντροπον νόημα is an extension of the meaning in tragedy): and it must be admitted that the word is not used in the fifth century in any way appropriate to ἁρμονίη, unless perhaps (as is improbable) the ms. reading of the Sophocles fragment is correct.

Παλίντονος is a Homeric word, like many in Heraclitus' vocabulary. It occurs five times in *Iliad* and *Odyssey*, always as an epithet of τόξον or τόξα and always immediately after the feminine caesura; the position of τόξον (thrice) and τόξα (twice) varies in each case. In three cases, at *Il.* XV, 443 = *Od.* XXI, 59, and *Od.* XXI, 11, the same words are used to fill the line after the feminine caesura: παλίντονον ἠδὲ φαρέτρη(ν). But even in the two other cases, although different words are used after the bucolic diaeresis, it is clear that παλίντονον(-α) itself occurs in a traditional position. Thus whenever the poet wished to mention the bow he knew that a suitable epithet could be used to fill a crucial part of his line. We surely have learnt enough from Milman Parry to know that this type of formula is sometimes used more or less indiscriminately, without precise regard for the original meaning of the formula. It is misleading to try and differentiate between a description of the strung and the unstrung bow, for the epithet is used indiscriminately in either case: thus at *Il.* VIII, 266; XV, 443, the bow in question is strung; at *Od.* XXI, 11; XXI, 59, it is unstrung; and at *Il.* X, 459 it is uncertain whether it is strung or unstrung (*contra* LSJ). In the two almost identical lines *Od.* XXI, 59, *Il.* XV, 443, the context shows that the bow was strung in one case, unstrung in the other. Now it is clear that the strung and unstrung bow cannot be described as παλίντονον in exactly the same way; if the epithet refers to shape, then if the bow is 'stretching back' when it is strung it is strictly 'stretching forward' when it is unstrung, or vice versa. If, on the other hand, the verbal element in the compound carries most weight, and the emphasis is on the *stretching* or tension of the string or the whole instrument, then this can only properly be applied to the strung bow. There is a slight *a priori* probability that the two lines describing the strung bow, which occur in separate books of the *Iliad*, were composed earlier than those describing the unstrung bow, which occur in a single book of the *Odyssey*: it is therefore possible that the epithet originally applied to the strung bow and not to the unstrung, although if it merely describes shape we still cannot differentiate. Kranz in DK in a somewhat confusing note on the fragment asserts that the epithet in Homer applies to the tension of the string; this is indeed my own feeling, but unfortunately it cannot be proved. Certainly at Herodotus VII, 69, and perhaps originally at Aeschylus *Cho.* 162, the epithet (derived no doubt directly from the Homeric

poems, as at Homeric Hymn XXVII, 16; Sophocles *Trach.* 511) is applied to the shape of the bow, and in particular of the Asiatic bow. Yet at Aristophanes *Birds* 1739 (ἡνίας εὔθυνε παλιντόνους) the word may very well emphasize the tension of the reins rather than their backward-pointing direction. In any case these later uses tell us nothing about the proper original meaning of the word, though they may make it clear that in the fifth century it was legitimate to use it in either of its two main senses.

The result of this investigation so far is that παλίντροπος cannot well describe a ἁρμονίη, and is indeed probably not used during the fifth century in any sense which could conceivably be attached to the fragment. παλίντονος may refer primarily to the strung bow, and therefore probably to tension rather than shape. Diels, however, made the following criticism (*VS*[4] I, 87): 'παλίντονον τόξον verstünde man, aber παλίντονος ἁρμονίη(!) λύρης kann schwerlich auf die gerissene Saite...gehen trotz Homer, *Od.* XXI, 405ff.' His words make it plain that he objects to the idea both of a παλίντονος ἁρμονίη, and of this concept applied specifically to the lyre. The passage from the *Odyssey* describes how Odysseus strung his bow as easily as a man fits a string round a new peg in his lyre. This simile is in fact quite irrelevant to our fragment and the idea expressed in it; the point is that there is no difficulty whatsoever in fitting a lyre string, because the tension on the string is created by turning the peg *after* the string has been attached. In the phrase ῥηϊδίως ἐτάνυσσε νέῳ περὶ κόλλοπι χορδήν, the verb is used much as we use 'stretch' in expressions like 'he stretched out his hand', merely to describe the covering of a given distance. If we ignore this simile there is no more difficulty in talking about a παλίντονος ἁρμονίη of a lyre than of a bow: in both cases the reference is probably to the tension in the string or strings, or in the instrument as a whole. Admittedly the bow has a single string, the lyre has several strings, but the general structure of the two instruments is the same: a curved frame has its extremities joined by one or more strings, which hold it under tension. According to Theognis Tragicus fr. 1 and Aristotle *Rhet.* Γ 11, 1412b35, the bow was a φόρμιγξ ἄχορδος. It has usually been assumed that this expression was based upon the similarity of shape, and this has even been advanced as support for taking the epithet in the second part of fr. 51 as referring to shape: but it is at least conceivable that ἄχορδος

is to be interpreted loosely as 'without so many strings', and that it is the functional tension as much as the shape which gave rise to this pretentious description. Thus there is no difficulty in treating the tension in bow and lyre as similar. A more serious objection would be that, while it is permissible to talk of a παλίντονον τόξον meaning 'a bow under opposing tensions' or simply 'a stretched bow', it is not permissible to talk of a παλίντονος ἁρμονίη: for ἁρμονίη cannot refer to the instrument as a whole, but only to a part or property of it. But even this objection is without real substance: the ἁρμονίη or 'connexion' (whether this implies the material means of connexion, as in the *Odyssey*, or the mode of connecting the connected things, which is perhaps more likely) may legitimately be described as 'under opposing tensions', because in the case of the bow and the lyre the connexion is between the arms of the instrument and the ends of the string: the string in each case is made taut (though by different methods), and thus the framework too is put under tension. In fact there are, in the instruments as a whole, two opposite tensions: the string is being pulled outwards towards its ends and the arms of the frame are being pulled inwards towards each other. The effectiveness of each instrument depends upon the existence of these two tensions and the exact balance between them.

The questionable part of the above explanation is the translation of παλίντονος as 'under opposing tensions' or, in the full translation on p. 203, 'working in both directions'. There is no evidence in the Homeric occurrences of the word that so much as this was meant. The normal meaning of παλιν- in compounds is 'back', 'backwards', or 'again'. But the adverb πάλιν, like ἔμπαλιν, can imply contradiction or opposition: e.g. *Il.* IX, 56 πάλιν ἐρέει = 'gainsay'; Pindar *Ol.* X, 87 νεότατος τὸ πάλιν = 'the reverse of youth'. Yet these uses do not suggest the idea of simultaneous contrariety. Perhaps, however, the -τονος element itself implies this contrariety: any kind of tension must work in both directions, and in a tautened string the tension can be regarded as operating either from the centre outwards or from the ends inwards. The addition of παλιν- merely emphasizes this contrariety, and it need have no more than its common force of 'back': a piece of elastic is pulled outwards, but it simultaneously stretches *back*, i.e. towards its normal state or inwards.

Two other interpretations of the image, involving the idea of tension, have been put forward. L. Campbell in his edition of the

Theaetetus (Oxford, 1861), p. xl, wrote as follows: 'As the arrow leaves the string, the hands are pulling opposite ways to each other, and to the different parts of the bow (cf. Plato *Rep.* 439), and the sweet note of the lyre is due to a similar tension and retension: the secret of the Universe is the same.' Wilamowitz, *Platon*² I, 367, also believed that the Plato passage gave the key to the simile; the passage is as follows, *Rep.* 439B ὥσπερ γε οἶμαι τοῦ τοξότου οὐ καλῶς ἔχει λέγειν ὅτι αὐτοῦ ἅμα αἱ χεῖρες τὸ τόξον ἀπωθοῦνταί τε καὶ προσέλκονται, ἀλλ' ὅτι ἄλλη μὲν ἡ ἀπωθοῦσα χείρ, ἑτέρα δὲ ἡ προσαγομένη. But while it is true that the pulling of the bow-string and the plucking of the lyre-string *increase* the opposing tensions, they do not create them: thus this picture is needlessly complex, and, indeed, is quite out of the question, since the action of the hands on the bow and lyre could not possibly be described as ἁρμονίη. The second interpretation is that of Macchioro, *Eraclito* 94ff. (cf. *Zagreus* 417ff.), who believes that παλίντονος ἁρμονίη refers specifically to the string. It is true that the string itself, without taking into account the rest of the instrument, contains a tension which is mechanically twofold. But this is not how Macchioro interprets παλίντονος: he takes it as meaning 'alternately stretching', and refers it to the alternate tension and relaxation of the string as it is plucked by the fingers. This is obviously more applicable to the lyre, just as the Campbell-Wilamowitz explanation was more applicable to the bow; but in any case Macchioro's alternating tensions are entirely out of the question, for the first part of fr. 51, which the bow and lyre image is intended to illustrate, deals with something which is *simultaneously* tending together and tending apart: so much is shown by the present tense of ξυμφέρεται.

We may now consider the implication of the whole fragment. The two-way tension that exists between the frame and the string in bow or lyre is said to resemble the way in which something which is at variance (with itself) agrees with itself; or, taken more concretely, the way in which something which is being carried apart is simultaneously drawn together. In view of Heraclitus' obsession with the opposites it does not seem too bold to guess that this something is the opposites in general, or each pair of opposites singly. Of course, διαφερόμενον and ξυμφέρεται might themselves be intended to stand as a particular example of the coincidence of opposites, except that it is not the case that what is carried apart is

literally drawn together except in very special instances like that of the bow and the lyre. If this were intended as a special concrete example then on the analogy of other fragments we should expect the form of the statement to be: τόξῳ καὶ λύρῃ διαφερόμενον... ξυμφέρεται· παλίντονος γὰρ ἡ ἁρμονίη. Now in fr. 10 it was concluded that συμφερόμενον and διαφερόμενον were alternative ways of describing συλλάψιες, which meant 'things taken together' or continua of quantity-quality falling within the limits of opposite extremes. Thus there is an additional reason for thinking that fr. 51 refers to the opposites. In every category there is a connexion between the extremes themselves, as there is between the individual extremes and the unity which is formed by the category taken as a whole. ξυμφέρεται describes this synthetic way of regarding differentiation, which is symbolized in the bow and lyre by the fact that the string draws in the arms of the instrument and so holds it together. διαφερόμενον describes the analytical way of viewing differentiation, by which the separation of the opposites and not their essential connexion is emphasized; in the image of bow and lyre it is symbolized by the arms drawing the string apart, and so tending to separate it and to disrupt the instrument as a whole. Properly speaking, however, these two directions of tension in the simile cannot be separated. That is the real point: the connexion is one which simultaneously operates in contrary ways, and it is only maintained so long as each tension exactly balances the other. If the outward pull of the arms is too strong the string breaks; if the inward pull of the string is too strong the arms break: in either case the ἁρμονίη is destroyed and the usefulness of the instrument is at an end. So in the case of the opposites: each pair of opposites is at the same time a unity and a duality, tending together and tending apart. Only so can the cosmos or orderliness of things as men experience them be maintained. The connexion between the many phenomenal things and the single underlying unity, which is elsewhere described as the Logos or the result of the Logos, is maintained by the maintenance of a tension between opposites which exists as a result of their inevitable change, sooner or later, from one extreme to the other. If it were not for the connexion provided by succession the other connexion, of relativity to different subjects, could not exist.

Thus this fragment is seen to be of wide application; the words διαφερόμενον...ξυμφέρεται can apply to all pairs of opposites, and

thus the whole of existence. The grammatical subject cannot be precisely defined, as was shown earlier in the discussion, but its character is too plain to be mistaken. What it could *not* be is Diels' ἕν or τὸ ἕν. It was perhaps the wide application of the fragment which persuaded Plutarch to supply the word κόσμου after ἁρμονίη on each of the three occasions when he quoted the second part. In each case his words are the same except for the divergence noted above over παλίντονος or παλίντροπος: *de Isid.* 45, 369B is representative: παλίντονος γὰρ ἁρμονίη κόσμου ὅκωσπερ λύρης καὶ τόξου, καθ' Ἡράκλειτον. Bywater even went so far as to give Plutarch's version the status of a separate fragment (his fr. LVI). Yet there is surely nothing surprising about the occurrence of κόσμου in all three of Plutarch's quotations. He felt that in order to make the sense clear, especially since the earlier part of the saying was to be omitted, some special reference had to be given to ἁρμονίη: and since he may well have realized that the statement was of general application it is not surprising that he added κόσμου. This is, of course, a word which would not have been used by Heraclitus without further limitation to mean what we call 'world'. At this point another piece of irrelevance may be considered: it is customary in the consideration of this fragment to mention Scythinus fr. 1 Diehl, *ap.* Plutarch *de Pyth. orac.* 16, 402A (περὶ τῆς λύρας) ἣν ἁρμόζεται | Ζηνὸς εὐειδὴς Ἀπόλλων πᾶσαν, ἀρχὴν καὶ τέλος | συλλαβών, ἔχει δὲ λαμπρὸν πλῆκτρον ἡλίου φάος. Here ἁρμόζεται and the description of the lyre remind one vaguely of our fragment of Heraclitus; ἀρχὴν . . . συλλαβών belongs to the common language of fourth-century hymnology. Scythinus, according to Hieronymus *ap.* Diog. L. IX, 16, composed a verse version of Heraclitus: it is therefore possible that the above two and a half lines come from this version, and are a reminiscence of fr. 51. But if so (and it is no more than a possibility) it tells us absolutely nothing new about Heraclitus except perhaps, what is not surprising, that Scythinus misunderstood him by taking ἁρμονίη in a musical sense. Gigon, whose interpretation of the fragment as a whole does not diverge too much from that given above, misleadingly describes the lines of Scythinus as 'important'.

There is a danger in taking this fragment to imply any criticism or amendment of the ideas taught by Pythagoras. To name only two scholars, Jaeger, *Nemesios von Emesa* 109 (who refers to Norden,

Agnostos Theos 133), and Cornford, *CAH* IV, 546ff., have written as though it is certain that Pythagoras believed in a 'harmony of opposites', but a peaceful or static harmony as opposed to the dynamic connexion postulated by Heraclitus. Yet all we can say about Pythagoras in this connexion is that he probably discovered an important fact about the musical scale, that the fixed notes bore a relation to each other which could be expressed in terms of whole numbers. Music was held in Pythagoras' circle to possess peculiarly wide powers, and this discovery of the mathematical basis of music led to the speculation that there may be a mathematical basis of everything else. There is no evidence that Pythagoras himself analysed things into opposites as the Milesians had tended to do; the συστοιχίαι of opposites described by Aristotle are assigned simply to the 'Pythagoreans', who may be considerably later than Heraclitus; and Alcmaeon, who postulated a *crasis* of opposites in the human body, although his date cannot be established with certainty, was probably younger than Heraclitus. Pythagoras' discovery was *about* the ἁρμονία or musical scale, and it is misleading to say that he discovered the ἁρμονία (meaning συμφωνία, which it only does in the fourth century and later) between high and low notes and therefore between opposites in music. Admittedly the intervals between the fixed notes are the *concordant* intervals, but those notes must also have been regarded as important for reasons which had nothing to do with musical κρᾶσις. The establishment of the columns of opposites may have taken place after the death of the founder, either as a result of an increased knowledge of Ionian ideas (conceivably, to turn the tables, of Heraclitus) or because of the development of the application of limit and the unlimited as the elements of number. Thus the present state of the evidence does not allow us to say that Heraclitus' ideas on a ἁρμονίη between opposites were in any way influenced by Pythagoras, or indeed that Pythagoras himself as distinct from his later followers was particularly interested in opposites in the Ionian sense. It is true enough that Heraclitus criticized Pythagoras, but there is no strong reason for believing that his criticisms were founded on this particular point of disagreement.

Before closing the discussion of fr. 51 another passage must be considered, which has usually been treated as a genuine fragment but which in fact appears to be a paraphrase or summary of frr. 51

(and perhaps also part of 10) and 80. It is fr. 8 in Diels and DK, 46 in Bywater: Aristotle *Eth. Nic.* Θ 2, 1155b2 ...Εὐριπίδης μὲν φάσκων ἐρᾶν μὲν ὄμβρου γαῖαν ξηρανθεῖσαν, ἐρᾶν δὲ σεμνὸν οὐρανὸν πληρούμενον ὄμβρου πεσεῖν ἐς γαῖαν, καὶ Ἡράκλειτος τὸ ἀντίξουν συμφέρον καὶ ἐκ τῶν διαφερόντων καλλίστην ἁρμονίαν καὶ πάντα κατ' ἔριν γίνεσθαι. ἐξ ἐναντίας δὲ τούτοις ἄλλοι τε καὶ Ἐμπεδοκλῆς, τὸ γὰρ ὅμοιον τοῦ ὁμοίου ἐφίεσθαι. The case against this being an exact quotation has been outlined by Gigon 25f. The three separate statements joined together by καί have all the appearance of being summaries. The use of συμφέρον in the active is surprising in view of its occurrence in the middle in fr. 10 and (probably) fr. 51, and the same is true of the active διαφερόντων; on the other hand, the active occurs in the Heraclitizing part of *de victu*, e.g. 1, 18 τὰ πλεῖστον διάφορα μάλιστα συμφέρει: cf. also 1, 11; 1, 17. The use of καλλίστην can only be described as decorative, and is quite different from that of the same epithet in fr. 124, especially if one accepts (as I do) the conclusions of McDiarmid and Friedländer (*AJP* 62 (1941) 492ff.; 63 (1942), 336) that Heraclitus there said ἀνθρώπων ὁ κάλλιστος. In any case the epithet is unsuitable as a description of a ἁρμονία unless this word bears its musical sense; for Heraclitus it could only mean 'scale', and one could not say that 'the fairest scale is formed out of different notes', for unless the notes are different it would not be a scale at all. Either ἁρμονία means 'concord', which is not a meaning Heraclitus would have known, or it means 'connexion', which is quite Heraclitean but unsuitable to the adjective καλλίστην: one would expect κρατίστην, cf. κρείττων in fr. 54. It is obvious that the second statement is simply an inaccurate paraphrase of the words διαφερόμενον ξυμφέρεται· παλίντονος ἁρμονίη in fr. 51. Similarly, the third statement reproduces γινόμενα πάντα κατ' ἔριν in fr. 80 (which might itself be a paraphrase except for the genuine appearance of its opening words, εἰδέναι χρή). The one word of this Aristotelian summary which may well be accurately reproduced from Heraclitus, and from a saying which we do not otherwise know of, is ἀντίξουν. This is a purely Ionic word and in its uncontracted form occurs several times in Herodotus, where it means 'adverse' or 'opposite'; the concrete meaning of ξέω, 'hew' or 'scrape', from which one of its elements is presumably derived, is suppressed. Certainly this is not a word which Aristotle would ever have used of his own accord, and we must accept it as one actually used by Heraclitus, presumably

in some statement of the same general import as frr. 10 and 51. Gigon points to the circumstance of ἀντίξουν being replaced by διαφερόντων in the second statement; but this hardly impugns its authenticity. Burnet 136 n. 5 chose to take συμφέρον as being a medical application of the word, implying allopathy; there are no grounds for this. Finally, a consideration of the context in Aristotle makes it very probable that only a summary of Heraclitus was intended: the words from Euripides are indeed a loose quotation of fr. 898, 7ff., but the clause ὅταν ξηρὸν πέδον κτλ. in the original is condensed by Aristotle into ξηρανθεῖσαν. More strikingly, Empedocles' view of the nature of attraction is given in an unpretentious summary; it is reasonable to suppose that Heraclitus, too, is merely summarized, though with references to his original terminology.

54

(47 B)

Hippolytus *Refutatio* IX, 9, 5 (p. 242 Wendland) ὅτι δὲ (ὁ θεὸς)[1] ἀφανὴς [ὁ][2] ἀόρατος ἄγνωστος ἀνθρώποις ἐν τούτοις λέγει· **ἁρμονίη ἀφανὴς φανερῆς κρείττων·** ἐπαινεῖ καὶ προθαυμάζει πρὸ τοῦ γιγνωσκομένου τὸ ἄγνωστον αὐτοῦ καὶ ἀόρατον τῆς δυνάμεως.

1 litt. tres non legi possunt: ὁ θσ Wendland, ἐστιν Miller. 2 secl. Wendland.

And that (god) is unapparent, unseen, and unrecognized for men he says in these words: An unapparent connexion is stronger than an apparent; *he praises and admires the unrecognized and unseen side of his power, rather than the recognized.*

This fragment is quoted twice by Hippolytus; the passage above follows a repetition of fr. 51, the first part of which, together with the introduction to it, is obliterated in the only manuscript. The general purpose of the last part of chapter 9 and the first few lines of chapter 10 of this book of the *Refutatio* is to show that Ἡράκλειτος ἐν ἴσῃ μοίρᾳ τίθεται καὶ τιμᾷ τὰ ἐμφανῆ τοῖς ἀφανέσιν (IX, 10, 1). This purpose is achieved for Hippolytus by following this fr. 54 with the quotation of fr. 55, ὅσων ὄψις ἀκοὴ μάθησις ταῦτα ἐγὼ προτιμέω, a saying which seemed to him (with some justification, it must be admitted: but the original context must have been different from that of fr. 54, and doubtless no contradiction was intended) to imply the opposite of fr. 54, that the apparent is preferable to the unapparent. Strangely enough he simply repeats this whole assertion, including the quotation of the two fragments successively, at the beginning of chapter 10 (fr. 56 having intervened): this seems to be a case of over-hasty composition. The second quotation of fr. 54 is introduced as follows: ἔστι γάρ, φησίν, ἁρμονίη ἀφανὴς.... Schuster, *Heraklit v. Ephesus* 24, proposed that the reading should be ἐς τί γάρ, and that these words belong to the fragment, which is interrogative. In this way the meaning would be that the apparent connexion is better, and there would be no contradiction of fr. 55. Zeller (ZN 836 n. 1) devoted a good deal of space to refuting this mis-

guided suggestion. The inconsistency with fr. 55 is only superficial; the words ἔστι γάρ are clearly supplied by Hippolytus, who omitted them in his first quotation of the fragment; and fr. 123 among others makes it clear that to Heraclitus the unseen, not the seen connexion is the important one.

Our other source for the fragment is Plutarch *de an. procr.* 27, 1026C, in a context which is unilluminating: τῆς δὲ ψυχῆς οὐδὲν μὲν εἰλικρινὲς οὐδ' ἄκρατον οὐδὲ χωρὶς ἀπολείπεται τῶν ἄλλων· ἁρμονίη γὰρ ἀφανὴς φανερῆς κρείττων καθ' Ἡράκλειτον, ἐν ᾗ τὰς διαφορὰς καὶ τὰς ἑτερότητας ὁ μιγνύων θεὸς ἔκρυψε καὶ κατέδυσεν. The γάρ is clearly Plutarch's. The only significant thing is that this quotation in Plutarch, as in Hippolytus, follows shortly after a quotation of fr. 51 (at 1026B). Both fragments, of course, contain the word ἁρμονίη, and it would not be surprising if they occurred together in some well-known collection of sayings of Heraclitus which may have been used in one form or another by both Plutarch and Hippolytus; nor can the possibility be ignored that the two sayings belonged to the same original context in Heraclitus; their subject-matter does not preclude this. Yet the safer course is to attribute the succession of these fragments in both Hippolytus and Plutarch to the occurrence in both of the same uncommon term.

This is the type of fragment which, short as it is and preserved in contexts which provide little clue to its original meaning, is susceptible of several interpretations, none of which can be shown for certain to be the correct one. In this case there is a fair measure of agreement among the authorities: Diels in *Herakleitos*[2] and early editions of *VS*, Reinhardt, *Parmenides* 179, Gigon 29, and Walzer ad fr. held that the apparent connexion is between night and day, summer and winter, and all things and events which invariably give way to each other (as described in the fragments of Group 5), while the unapparent connexion is the essential unity which underlies opposites of that kind. Diels, in addition, suggested that the former type of connexion is perceptible by the senses while the latter is λόγῳ θεωρητή: but Gigon is right in holding that this kind of epistemological distinction is foreign to Heraclitus—at least, it may be implicit in his beliefs but was never expressed by him. Certainly his use of λόγος never has epistemological connotations of a Platonic order. In the third and fourth editions of *VS* Diels simply said that the ἁρμονίη ἀφανής meant god, while Kranz in DK equated

it with the Logos. But the context in Hippolytus is no guide to the original context of the quotation; Kranz's suggestion is a little better, because the Logos either *is* or is very closely related to the fact that all opposites are one, and this may very well be the meaning of ἁρμονίη ἀφανής.

A more detailed scrutiny of the fragment may help to limit the possible meanings. ἁρμονίη must have the same sense as in παλίντονος ἁρμονίη in fr. 51, namely, 'connexion'. The only possible alternative is the earlier musical sense of 'scale' or 'mode', and an 'unapparent scale' is nonsense. The question is whether we are to think of a concrete, material connexion or joint as used by the carpenter, or an abstract connexion; the adjective κρείττων can in neither case bear any moral connotation, and must mean 'stronger'. Now it is not true that material connexions, splices and joints and so on, are stronger if they are hidden and unapparent: therefore the hidden connexion cannot be concrete in this sense.[1]

It is more likely that the apparent connexion is a concrete one, the unapparent one being the unity underlying the opposites, the sort of sense being that 'the unseen connexion between opposites is stronger than a chain'. Yet one cannot be sure that the apparent connexion, too, is not a non-concrete one. The meaning might be that connexion between opposites is stronger than that between similars, or between things which are patently related to each other. To take an imaginary example: the connexion between summer and heat is more apparent than the connexion between summer and winter, yet it is not so strong; for heat can occur without summer (e.g. as a result of a fire), and parts of summer can be devoid of heat; while the connexion between summer and winter, which is one of succession, can never fail. Summer and winter, although apparently so different, are extremes in the same genus, and by definition cannot be 'disconnected'. If Aristotle's paraphrase in fr. 8D had read ἐκ τῶν ἐναντίων

[1] There is perhaps one meaning of ἁρμονίη which would give the fragment a specific application: at *Il.* XXII, 255 ἁρμονιάων means 'covenants or agreements between opposing forces'. The word could therefore cover political agreements; it would be significant, and possibly true, to say that 'a secret treaty is stronger than a public one'. Heraclitus did, after all, make political pronouncements. Yet even so, in view of the use of ἁρμονίη in an almost technical sense and specifically in connexion with the opposites at fr. 51 (as also in Aristotle's paraphrase, = fr. 8D), this interpretation can scarcely be called probable.

κρατίστην ἁρμονίαν, this would exactly describe this possible interpretation. So too in the *Eudemian Ethics*, H 1, 1235a27, the view is ascribed to Heraclitus that οὐ γὰρ ἂν εἶναι ἁρμονίαν μὴ ὄντος ὀξέος καὶ βαρέος οὐδὲ τὰ ζῷα ἄνευ θήλεος καὶ ἄρρενος ἐναντίων ὄντων. Whether or not the examples quoted belong to Heraclitus or, perhaps more probably, to later Heraclitean speculation, the suggestion that a (musical) ἁρμονία and comparable syntheses are between opposites is not hostile to the proposed interpretation. We might detect here a loose development of the idea of a παλίντονος ἁρμονίη in fr. 51, though one which is not incompatible with the whole trend of Heraclitus' thought. Such an interpretation of this fr. 54, connecting it even more closely with fr. 51, was suggested to me by Mr F. H. Sandbach: by ἁρμονίη ἀφανής is meant specifically a παλίντονος ἁρμονίη. Not all connexions are connexions which hold the whole complex in tension; those which do might well be called 'unapparent', for the tension (which, as in the bow or lyre, is the most important factor and essential to the function of whatever is so joined) is not directly visible, although the actual manner of connexion (e.g. the ends of the string are secured to the extremities of the bow) is obvious. Such connexions under tension are particularly important, for connexions between opposites are of this type—neither opposite can be separated from the other absolutely without destroying the whole continuum; things in the world tend towards one opposite or the other at different times, but the balancing tension is preserved and neither one opposite nor the other achieves permanent control. Such connexions are also 'stronger', since they operate in both directions at once: for example, a man hanging on by one hand to a cliff is not so strongly connected as if the cliff were co-operating actively.

On the whole I incline to follow what may be termed the conventional interpretation of Reinhardt and Gigon: the unapparent connexion is the real but underlying unity of opposites, and so of all things; the apparent connexion is the superficial contact and similarity presented by a non-analytical glance at things around us—possibly the mere succession of opposites is particularly meant, but other connexions (of similar shape or function or colour; of accidental contiguity) are not to be disregarded. No such casual connexion, not even that of inevitable succession unless its full implications are considered, is as binding as the underlying unity

which connects all things. This interpretation of the fragment seems to give it more point than one which takes the apparent connexion in a concrete sense, though the somewhat naïve quality of the latter meaning might be in its favour. Any judgement here is bound to be subjective: what is indisputable is that the fragment refers in one way or another to the underlying unity in things, also called the Logos.

123

(10B)

Themistius *Or.* v, 69B **φύσις** δὲ καθ' Ἡράκλειτον **κρύπτεσθαι φιλεῖ,** καὶ πρὸ τῆς φύσεως ὁ τῆς φύσεως δημιουργός....

The real constitution of things *according to Heraclitus* is accustomed to hide itself, *and sooner than Nature the creator of Nature....*

The difficulty of this fragment lies in the determination of the exact meaning of φύσις. For the ancient authors who quoted it no difficulty existed—they took the word to mean what it commonly meant in their day, that is, Nature collectively. According to Diels' plausible conjecture, Porphyrius was Themistius' source for the quotation (repeated in the revised version at *Or.* XII, 159b); he was certainly Proclus' source at *in Rempublicam* II, 107 Kroll, καὶ ὅτι τὸ πλασματῶδες τοῦτο κατὰ φύσιν πώς ἐστιν, διότι καὶ ἡ φύσις κρύπτεσθαι φιλεῖ καθ' Ἡράκλειτον.... This comes among arguments which, Proclus says, Porphyrius would have adduced (*ibid.* II, 106). The earliest source in which the fragment occurs is Philo: references to it preserving the actual words but without specific attribution occur at *de somn.* I, 2, 6; *de spec. leg.* IV, 51; *de fug. et inv.* 32, 179. It is attributed to Heraclitus at *Qu. in Gen.* IV, 1, p. 237 Aucher, of which only the Armenian text is preserved. Aucher's Latin translation is as follows: 'arbor est secundum Heraclitum natura nostra, quae se obducere atque abscondere amat.' (The tree is the oak of Mamre, Genesis xviii, 1; as usual the quotation is twisted to fit Philo's context. See also ZN 837 n.) Other possible references, without mention of Heraclitus, are Seneca *Qu. nat.* VII, 30, 4 (combined with atomist and Platonic ideas); Manilius IV, 869 f.; Julian *Or.* VII, 216C. In the passages from Seneca and Manilius, however, even allowing for translation into Latin, the verbal correspondence with Heraclitus' saying is not striking, and the coincidence of sense may well be accidental: 'the secret of the Universe' and so on is by then a fairly common theme.

The surprising thing about the ancient testimonies is that none antedates the Christian era. It may be that the reason is the same as

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that which explains why many of the extant fragments occur only in Hippolytus, that they were preserved in good summaries and collections which were carefully perused by Christian writers for their special purposes. Philo eventually performed an analogous publicizing function for this fragment; nevertheless, it is so short and so easily memorable, so convenient also for a variety of themes, that it is surprising that it was not quoted in earlier secular writings.

Needless to say no evidence about what Heraclitus meant by φύσις can be gleaned from the contexts of these late authorities. There is divergence among modern scholars: thus Diels gave 'die Natur' as the translation; Kranz added in parentheses 'das Wesen'; Gigon 101 (here implicitly corrected by Heinimann, *Nomos und Physis* 92–5) inclined to take the word in its 'most primitive' sense, equivalent to γένεσις: he took this fragment closely with fr. 76D (which is not, in fact, more than a collection of inaccurate paraphrases) and held that as every becoming involves the death of one sort of matter, the birth of another, this process might well be described as 'hiding'. This is one of Gigon's least fortunate conjectures; it is an over-simplification to say that 'origin' or 'becoming' is the *original* meaning of φύσις: this view of Heidel's was opposed by Burnet 363f. (whose own extreme view that φύσις necessarily implies 'stuff', in early contexts, is equally out of the question). No one denies that φύομαι means 'grow'—but *this* may be a derivative meaning. Rather the truth is that at the 'primitive' stage of language there is no firm distinction between 'become' and 'be'. The root φυ- simply implies existence, and the broad general sense of φύσις, from which all specialized senses are derived, is 'essence' or 'nature', the way a thing is made[1] and, what is at times connected with this, the way it normally behaves. Aristotle's various attempts at definition in *Metaphysics* Δ do not vitiate this view. In fact, passages in which φύσις must mean 'becoming' or 'growth' are very rare. Ross, *Metaphysics* 1, 296, could find only Plato *Laws* 892C, Aristotle *Physics* B 1, 193b12, in addition to *Metaphysics* Δ 4, 1014b17. His opinion (following Aristotle, *Met.* Δ 4, 1014b35ff.; cf. Lovejoy *Philos. Review* 18, 371ff.) that at Empedocles fr. 8, 1 the word means nothing more than 'substantial, permanent nature' is not, however, convincing, and it is difficult to escape the conclusion that in that passage (but not

[1] The idea of growth is naturally included: in natural objects structure is determined by growth. See further *Cambridge Journal* VI, 9 (June 1953), 531–3.

necessarily in Empedocles fr. 63) φύσις, opposed as it is to θανάτοιο τελευτή, means something very like γένεσις. This does not alter the argument that the most common early sense of φύσις is 'being', though the idea of growth is not excluded and may be emphasized on particular occasions.

The translations proposed by Diels and Kranz are no less erroneous, suggesting as they do that the word in this fragment means the constitution of the whole agglomeration of things (Reinhardt 222f. concurs, perhaps because such an interpretation supports his later dating of Heraclitus), or a transcendent principle—what we call Nature.[1] This meaning is probably not found before the latter part of the fifth century, if then. The title περὶ Φύσεως which is attributed by the doxographers to the works of nearly all the Presocratics is partly anachronistic: see p. 37n. Burnet's well-known contention that φύσις means 'stuff' in all Presocratic uses is equally mistaken: as most scholars have now seen, the word tends to imply 'material substance' in these cases because most Presocratics thought that one could best describe the essence or constitution of a thing by describing its matter.

A specific guide to the interpretation of φύσις in this fragment may be derived from the other occurrences of the same word in extant fragments. In fr. 1 (see p. 42f.) occurs the phrase...διηγεῦμαι, κατὰ φύσιν διαιρέων ἕκαστον καὶ φράζων ὅκως ἔχει: the division of each thing into its proper category is made 'according to its real constitution', and the words ὅκως ἔχει repeat the idea of a real essence (Gigon 10 and Heinimann *op. cit.* 93 disagree, and hold that the first phrase describes the origin, the second the essence of things). So in fr. 112D, which may include some original phraseology, the words κατὰ φύσιν ἐπαΐοντας are analogous to those of fr. 1; the meaning is 'paying attention to things as they really are'. The only other fragment in which φύσις occurs is fr. 106a (from Plutarch), here discussed under fr. 57. There the conclusion is reached that both these fragments are versions of an archetype which corresponded most closely with fr. 57, but which contained the phrase φύσιν

[1] One must sympathize with Kranz in the difficulty of his task of subdividing the uses of φύσις, in the word-index to DK: but it must be admitted that the result is not free from confusion. As always, original and doxographical uses are jumbled together, the latter being often quoted under a B-reference, wrongly implying that the original words of a fifth-century author are in question.

ἡμέρας preserved in the version of 106a. It was suggested that the original form of the saying may have been as follows: φύσιν ἡμέρης καὶ εὐφρόνης οὐκ ἐγίνωσκεν· ἔστι γὰρ ἕν. In this case the φύσις or real constitution of day and night would reveal the fact that they are really two facets of a single process; this, indeed, *is* their φύσις. Such, clearly, must be the meaning of the word even in the garbled version retailed by Plutarch and even according to his otherwise false interpretation.

If we look outside Heraclitus we find that all uses of the word by Parmenides and Empedocles, except the notable usage in Empedocles fr. 8, probably involve the meaning 'nature' or 'real constitution', of individual things. The clearest example of this meaning occurs in Parmenides fr. 10, εἴσῃ δ' αἰθερίαν τε φύσιν τά τ' ἐν αἰθέρι πάντα | σήματα . . . ἔργα τε κύκλωπος πεύσῃ περίφοιτα σελήνης | καὶ φύσιν. In spite of the phrase which follows in relation to the sky, ἔνθεν ἔφυ, the idea even in the second instance is perhaps of present constitution (though cf. Heinimann, *op. cit.* 90f.). The same is the meaning in fr. 16, 3 of the same author; what thinks is μελέων φύσις. So in Empedocles, to neglect the ambiguous use of the same phrase in fr. 63 (though the fact that the identical phrase is used suggests that the meaning is the same as in Parmenides), φύσις at fr. 110, 5 follows the general pattern. This, incidentally, rather than 'growth', is the meaning in the sole Homeric instance, *Od.* x, 303. Among the fragments of Epicharmus which are usually accepted with least qualms, frr. 1–4 DK, are two instances of the word. In fr. 2 ὃ δὲ μεταλλάσσει κατὰ φύσιν conforms to type; in fr. 4 the case is different (the reference is to the hen's knowledge how to lay): τὸ δὲ σοφὸν ἁ φύσις τόδ' οἶδεν ὡς ἔχει | μόνα· πεπαίδευται γὰρ αὐταύτας ὕπο. Here φύσις might mean something like φυά in Pindar; but this fragment might still be suspected, and in any case Heraclitean influence is doubtful: see p. 395.

This brief survey leads to the conclusion that φύσις in fr. 123 is most likely to mean simply 'the real constitution of a thing, or of things severally'. The absence of an expressed limiting genitive is perhaps surprising, and could be due to a fault in the tradition; we should expect a word like πάντων or ἑκάστου or πραγμάτων.[1]

[1] Cf. ἁ ἐστὼ τῶν πραγμάτων (in a context which links φύσις and ἁρμονία) in [Philolaus] fr. 6; there, as in [Philolaus] fr. 1, the meaning of φύσις may be the same as for the Presocratics; even though these fragments were probably not by Philolaus himself they show considerable knowledge of Presocratic modes of expression.

Doubtless, though, Heraclitus did not go into details, and the omission of a limiting genitive may be due to his condensed style and considerable grammatical freedom: compare his laxity over the use of the definite article. The idea 'of everything' is one which would naturally supplement that of 'real constitution' for anyone who used φύσις in the same way as Heraclitus and was not confused (as we tend to be) by its later extensions. Thus the whole saying, brief as it is, falls into place as an assertion analogous to fr. 54; that part of the φύσις of a thing which particularly tends to be concealed may be compared with the ἁρμονίη ἀφανής of that fragment (for strictly speaking not the whole of a thing's φύσις would be concealed, though doubtless for Heraclitus individual superficial characteristics were less significant than the underlying part common to everything). The hidden truth about things is that they are not separate from each other; they are compounded of opposites which are 'the same',[1] and in spite of their apparent separation and irreconcilability they are inextricably connected in a unity which goes beyond a simple interrelationship of separate parts, since it extends not only to their arrangement and mutual relationship but also to their material.

It is important to notice that Heraclitus does not say that the constitution of things is *unknowable*, only that it is *hidden*: frr. 18 ('If you do not expect the unexpected you will not find it'), 22 ('Those who search for gold dig much earth and find little'), and possibly 86, suggest that with confidence a part at least of this hidden element can be discovered. The keynote of the fragments as a whole is that the Logos (which is the common element in the constitution of all things) *can* be apprehended, though most men ignore it. This is a completely different attitude from the scepticism of Xenophanes (fr. 34, 4: δόκος δ' ἐπὶ πᾶσι τέτυκται), whose successors in this respect were Gorgias and other sophists, and Democritus (cf., for example, fr. 117 ἐτεῇ δὲ οὐδὲν ἴδμεν· ἐν βυθῷ γὰρ ἡ ἀλήθεια).

[1] That Heraclitus believed some things to be *compounded* of opposites is an assumption, but a legitimate one in view of his prepossession with opposites, and the attitude of Anaximander before and Anaxagoras after him. The opposites themselves were regarded as substances, and doubtless some of the objects in the world were uncompounded opposites, e.g. the hot (what we should call fire) or the wet (moisture). For the connexion between these objects see the suggestion on p. 143. The connexion between compound objects depends upon a less rigorous application of the same principle.

7

(37B)

Aristotle *de sensu* 5, 443a21 δοκεῖ δ' ἐνίοις ἡ καπνώδης ἀναθυμίασις εἶναι ὀσμή, οὖσα κοινὴ γῆς καὶ ἀέρος· [καὶ πάντες ἐπιφέρονται ἐπὶ τοῦτο περὶ ὀσμῆς·][1] διὸ καὶ Ἡράκλειτος οὕτως εἴρηκεν ὡς **εἰ πάντα** τὰ ὄντα **καπνὸς γένοιτο ῥῖνες[2] ἂν διαγνοῖεν.** περὶ δὲ τῆς ὀσμῆς[3] πάντες ἐπιφέρονται ⟨ἐπὶ τοῦτο⟩[4], οἱ μὲν ὡς ἀτμίδα, οἱ δ' ὡς ἀναθυμίασιν, οἱ δ' ὡς ἄμφω ταῦτα.

1 secl. fere omnes editores, retinuit Diels, *Herakleitos*[2]. 2 ὅτι ῥῖνες EMPY; ὅτι om. LSU, Alexander. 3 ἐπεὶ δὲ τὴν ὀσμὴν EM, ἐπὶ δὲ τὴν ὀσμὴν codd. cett.; mutavi, cf. [περὶ ὀσμῆς] supra. 4 ⟨ ⟩ Christ.

Some think the smoky exhalation is smell, since it is compounded of earth and air; so Heraclitus also said in this way that If all *existing* things were to become smoke the nostrils would distinguish them. *About smell all tend to this kind of opinion, some saying that it is the moist exhalation, others that it is the smoky exhalation, and others again that it is both of them.*

Aristotle is our only witness for this fragment. The text of the context in which it is quoted is slightly corrupt; as often in the *de sensu*, a pointless and repetitive gloss has intruded. It is impossible for Aristotle to have written the sentence bracketed above, since by stating that all thinkers explain smell in terms of the smoky exhalation it contradicts both the assertion which follows—that all explain it in terms of exhalations, but of different kinds—and that which precedes, that *some* explain smell by the smoky exhalation. No doubt this sentence was copied into the text at this point from the place where it, or something like it, occurs after the quotation from Heraclitus. Certainly Alexander did not read it in the former position: in his paraphrase of this passage (p. 92 Wendland) he writes that Aristotle described *some* thinkers as saying that smell was the smoky exhalation, while of *all* of them some said it was the moist exhalation, others the smoky, others both. This is a fair summary of the passage of Aristotle as restored above. I have followed Christ in adding ἐπὶ τοῦτο (meaning either 'to this

opinion' or, syntactically easier, 'to this kind of description', i.e. as exhalations of one sort or another); after the dittography had taken place the original sentence, from which the repetition was made, doubtless became corrupted in attempts to restore a reasonable sense, and the misplaced repetition provides a clue to the original form of it. Christ, however (followed by the Teubner editor Biehl), retained the minority reading ἐπεὶ δὲ τὴν ὀσμὴν: Beare in the Oxford translation also read ἐπεί but did not accept Christ's addition of ἐπὶ τοῦτο: like Biehl he explained ἐπεί as being answered by ἀλλ' at a29, which is difficult to accept. On the other hand, ἐπὶ τὴν ὀσμὴν...ἐπιφέρεσθαι makes no satisfactory sense with any known meaning of ἐπιφέρεσθαι. I suggest περὶ δὲ τῆς ὀσμῆς (cf. περὶ ὀσμῆς above): the sentence in square brackets is misplaced, but otherwise closely follows the original and gives the clue to it. The original sentence was altered in order to avoid repetition, once its doublet had intruded shortly before; possibly ἐπί in the majority reading ἐπὶ δὲ τὴν ὀσμὴν was derived from ἐπὶ τοῦτο when this phrase dropped out.

The textual difficulty has little effect on the interpretation of the quotation; the meaning of the passage as a whole is not seriously in doubt. Only in the use of τὰ ὄντα is there any reason to suspect that the quotation may not have been exact. πάντα by itself would have done well enough; Heraclitus does not elsewhere use the phrase τὰ ὄντα, which became quite common a little later. Clearly it could have been added by Aristotle, who was not meticulous in quotation. On the other hand, the phrase τῶν ὄντων πάντων, meaning little more than it would do in the Heraclitus fragment, occurs in Empedocles fr. 129, 5: τὰ ὄντα is used also in Diogenes fr. 2; Zeno fr. 3; Prodicus *ap.* Xen. *Mem.* II, 1, 27; and [Philolaus] fr. 2. In Melissus frr. 7 and 8 τῶν ἐόντων and τὰ ὄντα carry special emphasis ('the things that actually *are*', εἶναι having its usual Eleatic implications) and are not quite comparable. One cannot say that an expression used by Empedocles could not have been used by Heraclitus, even though it does not recur in the extant fragments; but in view of the frequency of this phrase in philosophical language by Aristotle's time I have here omitted it from the quotation.

Cherniss 322 makes the following comment on the Aristotelian passage: 'Aristotle's notion that the fact that this smoky vapor is common to earth and air was the reason for the belief of earlier

thinkers is obviously false, since it rests upon his own theory of exhalations as intermediate stages in the alteration of the elements, the result of incomplete change of one of the pairs of qualities of which his four "simple bodies" consist.' This is perhaps not very easy to understand, but I entirely agree with Cherniss in his conviction that the dual-exhalation theory is Aristotle's alone and not, as some doxographical evidence would suggest, derived by him from Heraclitus: see pp. 271 ff. Here we see Aristotle judging not only Heraclitus but all Presocratics in terms of his own meteorological theory. He thinks (or chooses to think) that Heraclitus' remark referred to his own dry exhalation because the word καπνός occurs in it, and this is the name which, at *Meteorologica* B 4, 359b32, Aristotle suggested may conveniently be given to this kind of earthy exhalation; in the *de sensu* passage he distinguished this exhalation as ἡ καπνώδης ἀναθυμίασις. But does Heraclitus' saying really refer, primarily at any rate, to the nature of the sense of smell? The form of the saying suggests that it does not: the hypothesis envisages a condition which, if not merely imaginary, has little to do with the world of experience which would be the proper background for a discussion of the nature of different kinds of sensation. What we are entitled to assume is that Heraclitus thought that different odours which might inhere in what to the eyes is a single kind of smoke would be apprehensible through the nostrils; the only scientific presupposition here is that the nostrils are the means of smelling—which is hardly startling. If he had meant, as Aristotle suggests, that smell is connected with a dry, earthy exhalation which he called καπνός, then this meaning would have been put somewhat differently even by the obscure Heraclitus. As it is, the saying has the words καπνός and ῥῖνες, and that is good enough for Aristotle.

Diels, *Herakleitos*² 18, took the fragment as a demonstration of the restricted value of the senses: 'If everything turned to smoke the eyes would lose their power and the nose be the only criterion.' Later he wisely abandoned this improbable interpretation (which does not even accord with Heraclitus' evaluation of the senses in other fragments): in *VS*⁴ he refers with approval to the interpretation of Patin, *Heraklits Einheitslehre* 17ff., and Kranz in DK repeats this comment. Patin's explanation was indeed ingenious: he held this fragment to be ironical, another criticism of men for their passion for finding diversity at all costs while ignoring the essential unity of

things. 'Even if things turned to smoke, and so their one-ness became plain at last, men's noses would still smell out differences and concentrate on an unimportant diversity!'—This is indeed a possible explanation.[1] I do not accept it, however, on the grounds mainly that ironical statements in Heraclitus are not common enough to warrant preferring an ironical interpretation of an ambiguous fragment to a straightforward one, where both types of explanation give a plausible sense.

Reinhardt, *Parmenides* 180 n. 2, gave an excellent interpretation, of which the following account is a development. There is a hidden unity in the things of the world around us, a unity which is discovered by the intelligence working upon the results of the senses, not by the senses themselves. A hypothetical example of this may be drawn from the realm of the senses alone: if everything turned to smoke (a purely hypothetical assumption) the nostrils would still perceive all kinds of different smell in this smoke, but the eyes would be presented with a single uniform impression. Reinhardt remarked at this point: 'now there is no difference between smell and the other senses'—in other words, the conclusion is that in the hypothetical state the same thing, i.e. smoke, would be both one and many to the same person according to what criterion he used (i.e. sight or smell). So also in the real world things are one or many according to the way one looks at them—this was precisely the implication of fr. 10. I would suggest a further possibility: that Heraclitus considered the sense of sight to be a higher sense than that of smell, and therefore that the unity presented by the eyes is more significant than the plurality presented by the nostrils; so the underlying connexion in the real world is more significant than the apparent diversity. It is possible to object here that there is no specific evidence that Heraclitus placed more value on sight than smell. This was, however,

[1] Diels and Kranz appended to their reference to Patin the words 'Doch vgl. B 98'. Fr. 98 asserts that souls use the sense of smell in Hades, and is quoted only by Plutarch. Patin, *op. cit.* 23 f., reconciled this with his interpretation by branding it as a misunderstanding by Plutarch of this fr. 7: things turning to smoke referred, Plutarch thought, to the ecpyrosis, and therefore the smoky state could be equated with Hades. While admitting that fr. 98 need not be a strict quotation, I believe that it gives an excellent sense if taken as such, and that the paradoxical idea of *souls* using smell is not what we should expect of a mere Plutarchean paraphrase of fr. 7. But fr. 98 is *absolutely irrelevant* to the interpretation of the hypothetical statement which forms fr. 7.

the common ancient view: and he certainly preferred sight to hearsay (fr. 101a may not mean more than this). The depreciation of smell is one possible implication of fr. 98. But the view has been put forward that smell held not the lowest but the highest place for Heraclitus, for according to the plausible information of Sextus Empiricus *adv. math.* VII, 129 (DK 22A16) the soul's only connexion with the Logos and the outside world, in sleep, is breath (with which smell is intimately connected). Judgement had better be reserved on this point.

Gigon 57, followed by Walzer, gives another twist to Reinhardt's explanation and refers the fragment to the cosmological doctrine that all things are fire (for they are forms of fire), though they appear to be different kinds of matter. Gigon admits that there may be no grounds for this special application, and it is indeed difficult to find any: the use of καπνός must be restricted to the hypothesis and cannot give any clue to the aspect of the real world which the hypothetical example illustrates.

Reinhardt, *loc. cit.*, pointed to frr. 15 and 99 as other examples of Heraclitus' preference for the hypothetical method of demonstration. Another parallelism is with fr. 67, where god is said to change in the way that fire receives different names when different spices are thrown upon it: here again smoke with different scents is used as an example of the combination of one and many in the same subject, according to different means of apprehension. In fr. 7 it is the phenomenal world as a whole which is so illustrated, in fr. 67 god, but as inherent in the world. The two fragments are very closely related, though there is a slight difference of emphasis; in fr. 7 the opposites are not mentioned.

GROUP 8

Frr. 80, 53, 84a, b, 125, 11

The fragments of this group declare, both directly and in metaphorical terms, that interaction between opposites—called 'war' or 'strife'—must be continuous, and applies in all parts of the world: it is 'common' in the same way as the Logos is common. There can presumably be remissions of movement and change at different times, in different parts of the metaphorical battlefield. Then, in the language of fr. 51 in the preceding group, the tensions are equally balanced. Any general interruption of the interaction or strife would cause the end of the ordered world as we know it; thus strife is not anti-natural, but the normal course of things.

80

(62 B)

Origen *contra Celsum* VI, 42 (II, 111, 10 Koetschau) . . . φησί [sc. ὁ Κέλσος] θεῖόν τινα πόλεμον αἰνίττεσθαι τοὺς παλαιούς, Ἡράκλειτον μὲν λέγοντα ὧδε· **εἰδέναι[1] χρὴ τὸν πόλεμον ἐόντα ξυνὸν καὶ δίκην ἔριν[2] καὶ γινόμενα πάντα κατ' ἔριν καὶ χρεών·[3]** Φερεκύδην δὲ . . . (seq. Pherecydes fr. 4).

1 εἰ δὲ cod., em. Schleiermacher; εἰδέναι δὲ Diels, Koetschau, Kranz. 2 ἐρεῖν cod., corr. Schleierm. 3 χρεώμενα cod., em. Diels; cf. Philodemus *de piet.* infra. καταχρεώμενα Schuster, κρινόμενα coni. Bywater.

Celsus says that the ancients used to hint at a kind of divine war, and that Heraclitus said as follows: One must know that war is common and right is strife and that all things are happening by strife and necessity. *And Pherecydes . . . (Pherecydes Syrius fr. 4 follows).*

The first two corrections of the ms. version are virtually certain; χρή (a comparatively common introduction to moral exhortations in Heraclitus, cf. frr. 35, 43, 44, 114) must have an infinitive, which can only be represented by εἰ δέ in the ms. Corruptions of εἰδέναι are not uncommon in our texts: in this case three letters have been entirely lost—there is little to be said for keeping δέ with Diels, and many fragments lack connectives. It is a strange coincidence that the ms. has three *extra* letters at the end of the quotation, if Diels' χρεών is right, -ενα instead of -ναι: there is no sign in the Vatican ms. of *c. Celsum* (on which all other extant mss. depend) of such a transposition, which may, however, have been accidentally made at an earlier date. Diels' conjecture, first made in a review of Bywater's *Heracliti Ephesii Reliquiae* in *Jenaer Literaturzeitung* (1877), 394, received some support from the discovery of the *de pietate* of Philodemus at Herculaneum: 433 II[a] includes the following lines, restored by Philippson, *Hermes* 55 (1920) 254:

γίνεσθαι] κατ' ἔ-
ριν καὶ κατὰ] χρεὼν
πάντα φ]ησὶν Ἡρ[ά-
κλειτος, Μί]μνερ[μος
δὲ πάντα δι]αφωνεῖν
ὁ δ' Ἐμπ]εδοκλῆ[ς
κτλ.

Diels thought that in line 1 παρ' was more likely to be the reading than κατ': κατά, however, is the commoner preposition in this sense and is certainly used in Anaximander fr. 1. Philippson remarked: 'Den Namen Empedokles lese ich mehr aus dem Zusammenhang als auch den Zeichen heran'; Heraclitus and Empedocles are so often mentioned together, especially in contexts dealing with strife, that this conjecture is not improbable even though only one letter is certain. At all events it seems possible, in spite of the fragmentary nature of the text, that we should recognize here a version of part of fr. 80; χρεών is a plausible restoration (a nominative is out of the question after the almost certain φησίν). Further confirmation that in this fragment Heraclitus conjoined the ideas of strife and necessity is possibly provided by Plutarch *de soll. anim.* 7, 964 E: ἐπεὶ τό γε μὴ παντάπασι καθαρεύειν ἀδικίας τὸν ἄνθρωπον οὕτω τὰ ζῷα μεταχειριζόμενον Ἐμπεδοκλῆς καὶ Ἡράκλειτος ὡς ἀληθὲς προσδέχονται, πολλάκις ὀδυρόμενοι καὶ λοιδοροῦντες τὴν φύσιν ὡς ἀνάγκην καὶ πόλεμον οὖσαν, ἀμιγὲς δὲ μηδὲν μηδ' εἰλικρινὲς ἔχουσαν κτλ. But Plutarch is talking about pollution connected with the treatment of animals, and in the case of Empedocles seems to have in mind fr. 115, ἔστιν Ἀνάγκης χρῆμα . . . : he who has embroiled himself with killing or with quarrelling and perjury becomes incarnated in one after the other of the lower animals. This fragment involves both ἀνάγκη and νεῖκος, and it is quite possible that Plutarch was thinking particularly of it when he claimed that Empedocles and Heraclitus looked upon necessity and war as belonging to the nature of things; in the case of Heraclitus he may have had in mind fragments reprehending blood purification, like fr. 5, but in none of these is there any mention of necessity. Thus what appears to be a reference by Plutarch to the last clause of fr. 80 may be nothing of the sort; the reference may be primarily to Empedocles, Heraclitus being appended because he too talked about strife, and, in different contexts, about pollution.

No more adequate solution than that of Diels has, however, been offered. The ms. reading does not make sense, while Schuster's textually unobjectionable emendation gives a very specialized and indeed inappropriate sense: is καταχρεώμενα meant to be opposed to γινόμενα? for if so κατ' ἔριν should be in a position where it can apply better to both participles. Bywater's κρινόμενα is better, and he compares Philemon fr. 204 Kock, χρόνῳ τὰ πάντα γίγνεται καὶ κρίνεται. But again this verb seems too abstruse for what

otherwise is a very unadorned generalization; and in this case it would add little to γινόμενα. Koetschau at first followed Gundermann in reading χωρεόμενα: but the transposition of non-adjacent letters is not as easy as it might look, and in addition it is quite clear that the emphasis of the fragment is on πόλεμος-ἔρις, not on refinements of the meaning of γινόμενα. Bignone, *Empedocle* 175, suggested χρεώ⟨ν κυβερνώ⟩μενα; Diels wisely rejected Heidel's improbable χρεὼν μέτα. A point in favour of χρεών is that there may be elsewhere in this fragment a reference to the extant fragment of Anaximander, . . .κατὰ τὸ χρεών· διδόναι γὰρ αὐτὰ δίκην καὶ τίσιν ἀλλήλοις τῆς ἀδικίας κατὰ τὴν τοῦ χρόνου τάξιν. Here δίκη means 'retribution', ἀδικία 'injustice'. It is possible that Heraclitus was deliberately amending this statement by Anaximander, with its implication that opposites commit aggression upon each other, and that change between opposites involves a kind of injustice: on the contrary, *he* held that strife between opposites was 'the right way', normal and just. He accepted, however, the idea that the behaviour of opposites comes within the sphere of what must be, of the regular course of events; and for this reason may have repeated χρεών. Even if he was not conscious of the use of the word by Anaximander, its previous known use in the same kind of context is in its favour here. Gigon 116 claims that Heraclitus is criticizing, among other pronouncements, Hesiod *Erga* 276ff.: τόνδε γὰρ ἀνθρώποισι νόμον διέταξε Κρονίων, | ἰχθύσι μὲν καὶ θηρσὶ καὶ οἰωνοῖς πετεηνοῖς | ἐσθέμεν ἀλλήλους, ἐπεὶ οὐ δίκη ἐστὶ μετ' αὐτοῖς· | ἀνθρώποισι δ' ἔδωκε δίκην, ἣ πολλὸν ἀρίστη | γίγνεται. . . . Hesiod implies that strife among animals is due to the lack of δίκη, of any accepted and ordered way. Heraclitus does indeed proclaim the opposite of this, that δίκη implies the presence and not the absence of ἔρις. But the word ἔρις is not used in the Hesiodic passage, which diminishes the likelihood of a specific reference to it by Heraclitus. On the other hand, the description of war as ξυνόν perhaps is an intentional echo of a well-known earlier passage: *Il.* XVIII, 309 ξυνὸς Ἐνυάλιος καί τε κτανέοντα κατέκτα. This declaration of Hector is rephrased by Archilochus in fr. 38 Diehl, ἔρξω . . . | ἐτήτυμον γὰρ ξυνὸς ἀνθρώποισ' Ἄρης. Even here it is far from certain that Heraclitus was intentionally modifying a well-known expression; if so, one might have expected him to retain the personification. Also, ξυνός is a word which Heraclitus might have used anyway. It may indeed convey some impression of

impartiality, as in Homer and Archilochus; but the primary emphasis is probably on the universality of war—this surely must be the sense in view of frr. 2 and 114 and of the description of war as father and king of all in fr. 53.

The last clause of the fragment is paraphrased by Aristotle at *Eth. Nic.* Θ 2, 1155b6 (in what Diels wrongly counted as Heraclitus fr. 8; see p. 220), καὶ πάντα κατ' ἔριν γίνεσθαι. The fragment asserts that war is common not only to all men, but also to all things; all things invariably come about (rather than come into being) according to strife.[1] War or strife must here symbolize the interaction between opposites; for all change, as Heraclitus and many of his contemporaries seem to have believed, could be resolved into change between opposites: the unity which Heraclitus detected in particular pairs of opposites extended to the whole sum of things. Change between opposites is the normal course of events, it is what we might call 'natural': little more is implied by the words δίκη and χρεών here. The first word meant originally the direction indicated by the majority, and implies normality; the second is sometimes equivalent to ἀνάγκη, but even ἀνάγκη in Presocratic contexts often means much less than 'absolute necessity' and is used to account for regular events which could not be rationally explained: particularly, perhaps, for the origin and continuation of physical change and motion. But χρεών need imply little more than χρή, that is, conditional necessity; thus 'it is necessary to know' that war is common, if one is to be wise and happy and effective; but doubtless Heraclitus would hold that many men did not know this. H. Fränkel, *GGN* (Phil.-hist. Kl. 1930) 183, stated this as follows: 'Die Wörter des Stammes χρη- bezeichnen ein *Sollen* und *Schuldig Sein*, ein *Gebrauchen* und *Brauchbar Sein*, nicht ein *Müssen* und *Unvermeidbar* Sein'. What would happen if strife ceased to be the normal rule is suggested by Heraclitus' attack on Homer, described below. In fact, the continuation of strife and change was particularly important for Heraclitus because it was by reciprocal change that many opposites were

[1] Theophrastus evidently took this fragment to refer to coming-to-be, in a cosmogonical sense; for Diog. L. IX, 8 (almost certainly derived from Theophrastus) appears to paraphrase this saying: τῶν δὲ ἐναντίων τὸ μὲν ἐπὶ τὴν γένεσιν ἄγον καλεῖσθαι πόλεμον καὶ ἔριν. . . . In fact the present participle γινόμενα in the fragment could hardly refer to past and non-continuous cosmogonical events.

connected, all those which were held to be 'the same' because they inevitably succeeded one another. The cessation of ordered change would involve the surrender of unity, and the destruction of the κόσμος or organism of things; though not all things need be encroaching upon each other all the time, just as in war some of the combatants are apparently at rest, either because they are gathering strength for new attacks or because they are locked in struggle with an exactly balanced enemy.

The whole fragment appears to be homogeneous and to be a carefully balanced and slightly repetitive statement of a single idea. War and strife are different words for the same concept; δίκη and χρεών also partly coincide, while the idea of ξυνόν is implicit in πάντα. The fragment might be stated as follows:

> 'War-strife (a) is everywhere (b), normal-course-of-events (c) is war-strife (a),
>
> everywhere (b) things happen by war-strife (a) and normal-course-of-events (c).'

If **a**, **b**, **c** are the three elements of the composite proposition, then **b** is predicated of **a**, **a** of **c**, and **a-c** of **b**: in the last clause all three elements are taken together for the first time. According to this analysis χρεών is by no means inessential or inappropriate to the structure of the fragment.

Here we may consider the well-attested criticism by Heraclitus of Homer, for making Achilles wish that strife would perish from among men and gods (*Il.* XVIII, 107); for this would involve the destruction of the world as we know it, the ordering of which depends on strife. Unfortunately, Heraclitus' own words are not exactly recorded, and there is some variation between our sources about the consequence of Achilles' wish being granted; so this important saying cannot be given the status of a fragment. It should nevertheless not be neglected, forming as it does an important confirmation of and addition to fr. 80. Kranz, *Hermes* 69 (1934) 116, has pointed out that Heraclitus was evidently given to attacking specific sayings of Homer and Hesiod (cf. frr. 57 and 105). The evidence (given in part as DK 22A22) is set out opposite.—Cf. also Σ A on *Il.* XVIII, 107 'Ηράκλειτος τὴν τῶν ὄντων φύσιν κατ' ἔριν συνεστάναι νομίζων μέμφεται Ὅμηρον, σύγχυσιν κόσμου δοκῶν αὐτὸν εὔχεσθαι.... In Aristotle's account the Homeric line is followed by reasons for the criticism, in indirect speech—that is, they are

Ar. *Eth. Eud.* H 1, 1235 a 25	Plutarch *de Is.* 48, 370 D	Numenius fr. 16 (Thedinga) *ap.* Chalcid. *in Tim.* c. 297	Simplicius *in Cat.* p. 412 Kalbfleisch
καὶ Ἡράκλειτος ἐπιτιμᾷ τῷ ποιήσαντι "ὡς ἔρις ἔκ τε θεῶν καὶ ἀνθρώπων ἀπόλοιτο". οὐ γὰρ ἂν εἶναι ἁρμονίαν μὴ ὄντος ὀξέος καὶ βαρέος οὐδὲ τὰ ζῷα ἄνευ θήλεος καὶ ἄρρενος ἐναντίων ὄντων.	Ἡράκλειτος... τὸν μὲν Ὅμηρον εὐχόμενον ἔκ τε θεῶν ἔριν ἔκ τ' ἀνθρώπων ἀπολέσθαι λανθάνειν φησὶ τῇ πάντων γενέσει καταρώμενον, ἐκ μάχης καὶ ἀντιπαθείας τὴν γένεσιν ἐχόντων...	Numenius laudat Heraclitum reprehendentem Homerum, qui optaverit interitum ac vastitatem malis vitae, quod non intellegeret mundum sibi deleri placere....	...οἱ 'Ἡρακλείτειοι'· εἰ γὰρ τὸ ἕτερον τῶν ἐναντίων ἐπιλείψει οἴχοιτο ἂν πάντα ἀφανισθέντα. διὸ καὶ μέμφεται τῷ Ὁμήρῳ Ἡράκλειτος εἰπόντι "ὡς ἔρις ἔκ τε θεῶν ἔκ τ' ἀνθρώπων ἀπόλοιτο"· οἰχήσεσθαι γάρ φησι πάντα.

formally attributed to Heraclitus. But Aristotle is frequently imprecise in this way, and attributes his own conjectured reasons to the holders of earlier opinions to which he refers: the indirect speech is no more a proof of historical accuracy than an introductory φησί is a guarantee that a direct quotation and not a paraphrase will follow. Gigon 117 does not accept the reasons as those of Heraclitus, on the grounds that the opposition between male and female does not fit into any of the classes of opposites mentioned in extant fragments; in particular, their unity cannot be proved by invariable succession or by relative coincidence. Yet we are not entitled to assume that other classes of opposites were not mentioned by Heraclitus, and the male-female opposition is a very striking one; male and female certainly could be described as συμφερόμενον, and the unity between them is of an obvious nature. Similarly, the musical opposition between high and low notes, and their conjunction in a tune, is not cited in any fragment; Heraclitus might conceivably have used ἁρμονίη in this sense, though he does not elsewhere do so (see on fr. 51). It is notable that both these instances occur in the pseudo-Aristotelian *de mundo*, and the musical instance in *de victu* I, 18: see p. 168 f. None of our other sources, however, follows Aristotle in attributing these reasons to Heraclitus or even mentioning them. Otherwise, Plutarch and Numenius are not very different, and according to them Heraclitus held that Homer was unintentionally (λανθάνειν; 'quod non intellegeret') wishing for the destruction of the world (in Plutarch, of γένεσις, perhaps because he had in mind γινόμενα in fr. 80, which he quotes elsewhere). Simplicius and the Homeric scholiast (cf. also Eustathius *ad loc.*) agree that this,

according to Heraclitus, is what the abolition of strife would involve. Possibly Plutarch and Numenius used the same source; perhaps Simplicius followed Numenius; we cannot be certain. Simplicius mentions Heracliteans as well as Heraclitus himself; the rebuke is attributed to Heraclitus, and so is the reason for it—but the reason is expressed in words already attributed to the Heracliteans. This may just be because the words are those which occurred to Simplicius on both occasions, to express the same idea; but it may suggest that the rebuke belonged to Heraclitus, while the obvious reasons for it were made explicit later and eventually attributed to the master. This is a reasonable view to adopt in the absence of other evidence. All later sources except Plutarch agree with Aristotle in saying that Heraclitus *reproached* or *blamed* Homer (cf. Plutarch's Ἡράκλειτος ἐπέπληξεν Ἡσιόδῳ in fr. 106D, under fr. 57); here they are probably dependent on Aristotle. Why they diverged from him in the reason given for the attack is not determinable; judgement must be reserved also about whether the male-female and musical oppositions were instanced by Heraclitus himself or by followers. The last is perhaps more probable.

All the fragments of this group assert the necessity for the continuation of change in the world: the universality of strife is a less extreme stage of the belief which Plato attributed to Heraclitus in terms of the river-simile. Reinhardt pointed out that there is no fragment in which *all things* are compared with a river, and Gigon accepted his point of view. I shall add that the river-statements (frr. 12 and 91) bring out a new idea about change: that it must happen according to measure if the result is not to be chaotic. The same idea is implicit in the παλίντονος ἁρμονίη of fr. 51 and in the whole metaphor of strife, if this is made to apply (as it is) to opposites: the unity of opposites is destroyed if strife ceases, or if one side gains too great a predominance. On the other hand, the strife-metaphor does not imply, as the river-metaphor was held to imply, that *everything* is changing *all the time*. Nothing remains stable for long, all things eventually change, in no part of the world is everything stable—this was enough for Heraclitus, and indeed it is the common-sense view and the unexpressed view of most of his contemporaries.

53

(44B)

Hippolytus *Refutatio* IX, 9, 4 (p. 242 Wendland) (post fr. 52) . . .ὅτι δέ ἐστιν ὁ πατὴρ πάντων γεγονότων γενητὸς ἀγένητος, κτίσις δημιουργός, ἐκείνου λέγοντος ἀκούομεν· **πόλεμος πάντων μὲν πατήρ ἐστι, πάντων δὲ βασιλεύς, καὶ τοὺς μὲν θεοὺς ἔδειξε τοὺς δὲ ἀνθρώπους, τοὺς μὲν δούλους ἐποίησε τοὺς δὲ ἐλευθέρους** (seq. fr. 54).

(*After fr.* 52) *And that the father of all things begotten is begotten and unbegotten, creature and creator, we hear him say:* War is the father of all and king of all, and some he shows as gods, others as men; some he makes slaves and others free (*fr.* 54 *follows*).

Hippolytus evidently derived his conclusion from this fragment (anticipated in the words introducing fr. 50) by the following argument: War is described as a supreme god, and yet he creates the gods as well as men; therefore *qua* god he is both creator and created. Childish arguments such as this give no help towards the historical interpretation of Heraclitus, but they at least show that Hippolytus was not prone to alter his quotations from ancient authors to suit his own ends: for he was clearly not exacting on the subject of relevance. Here he gives the fullest known form of this saying of Heraclitus, which is unusually symmetrical and makes exceptional use of verbal balance and antithesis; probably this is due not to later reshaping, but to the intentionally hieratic nature of the description of *Polemos*. Plutarch quotes part of this description at *de Is.* 48, 370D, Ἡράκλειτος μὲν ἄντικρυς πόλεμον ὀνομάζει πατέρα καὶ βασιλέα καὶ κύριον πάντων. Proclus twice attributes the predication of war as father of all to Heraclitus, *in Tim.* 20D, 24E; Lucian has the same predication but without attribution to Heraclitus, at *Quomodo hist. conscrib.* 2; *Icaromen.* 8. In none of these cases is any light thrown on the original context. An earlier reference, probably to this fragment, was made by Chrysippus according to Philodemus *de pietate* c. 14, p. 81 Gomperz: ἐν δὲ τῷ τρίτῳ τὸ(ν) κ(όσ)μον ἕνα τῶν φ(ρο)νίμ(ω)ν συνπολειτευόμενον θεοῖς καὶ ἀνθρώποις καὶ τὸν

πόλεμ(ον) καὶ τὸν Δία τὸν α(ὐ)τὸν εἶναι καθάπ(ε)ρ καὶ τὸν Ἡράκλειτον λέγειν. Chrysippus correctly recognized that Heraclitus' description of Polemos in the fragment is that often applied to Zeus, and so he asserts that Heraclitus equated the two. This is unlikely; in fr. 32 'the only completely wise thing' partly coincides with the Zeus of traditional religion and to this extent is willing to be called Zeus, but otherwise this name is fallacious; so too Polemos is not completely coextensive with Zeus.

This fragment restates in more concrete terms the assertion in fr. 80 that war is common. In that fragment we learned that a principle of strife or reaction between opposites was in question; the present fragment contains nothing to show that so wide an application is intended, and war here may be simply the war of the battlefield, and no metaphorical principle. This, indeed, is what the fragment as it stands implies, and this is perhaps the way in which it should be taken in the absence of a defining context. Fr. 80 certainly indicates that the statement about the battlefield is probably an *illustration* of a more general contention by Heraclitus, and therefore fr. 53 may safely be grouped with fr. 80. Gigon 119 is surely right in maintaining that πάντων in fr. 53 must be understood as applying to all men (more correctly to men and gods) rather than to all things; the rest of the fragment shows that attention is concentrated on the world of men. Zeus in Homer is the father of gods and men, or the king of all the gods: it is he who exercises ultimate control over the Trojan battlefield. Heraclitus elevates this function to the supreme one, to the neglect of the other activities of Zeus. *War* is supreme king; so Pindar spoke of νόμος as ὁ πάντων βασιλεὺς θνατῶν καὶ ἀθανάτων, in fr. 169 Schröder. This, even when restricted to the war of the battlefield, is no mere commonplace; it may be true that Ionia in Heraclitus' lifetime had had a stormy history, but that by itself would hardly justify his assertion. The second half of the fragment may reveal its motive; yet here fresh difficulties arise. The aorists are probably 'gnomic'; ἔδειξε admittedly could refer to a distinction between gods and men which took place once and for all, in the past, but the making of slaves and free goes on all the time and presumably indicates that the first distinction too is a continuous one. Compare the aorists in fr. 111, on which see p. 131. We can easily understand how War makes some men free, others slaves: those who are captured are enslaved, other survivors

remain free. But how does it 'reveal'[1] some as gods, others as men? Gigon 119f. explains that those who become gods are those who are killed in battle; this gives a neat pattern: War separates its participants into dead (who become gods) and living; the living it separates again into slaves (the captured) and free (the uncaptured). Such a pattern would not be inappropriate to the antithetical style: but does Heraclitus really believe that all those who are slain become gods? It is customary here to refer to Hesiod *Erga* 157ff., where 'the divine race of heroes', Hesiod's fourth race of men, is described as οἳ καλέονται | ἡμίθεοι: Heraclitus may here be thinking of the Heroic Age when all men died in war—at any rate he uses some of the terminology of the poet of that age, Homer. Homer calls all fighting men of good family 'heroes', but not even in Hesiod did all heroes become gods after death. He tells us that 'some were hidden by the end of death; the others were settled by Zeus at the boundaries of the earth' to live the blessed life of demi-gods. Yet these, we know, were those who had one divine parent—who were heroes in the strict sense. The majority passed to Hades where they were not gods but less than men. It was the golden race, according to Hesiod, who after their eclipse became 'daimons, guardians on earth of mortal men' (*Erga* 122f.); and these presumably are the 'thirty thousand immortal watchers over mortal men' of *Erga* 252f. They are immortal; but their fate cannot be emulated by those of the Heroic Age, let alone by the contemporaries of Hesiod or Heraclitus. In Homer, of course, all but the semi-divine heroes go down to Hades. Therefore this interpretation of the fragment as a statement in terms of heroic literature and the heroic view of life and death does not bear examination. Nevertheless, Heraclitus may have had his own views about the fate of those slain in battle: frr. 24 and 25 attribute a special virtue to death in battle—not specifically to a brave death, at any rate in fr. 24; while fr. 136D, although clearly not original in form, may contain a Heraclitean sentiment—that souls of those slain in battle are 'purer' than of those who are wasted away by illness. The reason must be that the former are fiery, the latter watery: see my article 'Heraclitus and Death in Battle', *AJP* 70 (1949), 384ff. We do not know exactly what were

[1] ἔδειξε here implies causation, as often of the gods: cf., for example, *Il.* XIII, 244 δεικνὺς σῆμα βροτοῖσιν. When a god shows or reveals something to mortals he himself is responsible for it being there, or becoming visible.

Heraclitus' views on gods: sometimes he uses θεός and θεοί in a purely conventional way, at other times, as in fr. 67, the word seems to connote some idea particular to himself and closely connected with that of the universal Logos or formula of things. This Logos, in its material aspect, must be a kind of fire; and in so far as Heraclitus believed in gods at all they must have been thought of as fiery. The good soul, we know, is fiery; and souls which are fiery when they leave the body might be described as gods—although they can have no individual existence and are joined to the mass of aitherial fire which is perhaps the source of the τροπαί undergone by matter in the cosmos. The immediate conclusion is that Heraclitus may very well have thought that those killed in war achieve the only possible kind of divinity: thus war might be said to make some into gods and keep others as men; the latter may be divided into slaves and free. But this does not solve what is perhaps the chief difficulty about this fragment: not all human beings by any means partake in war (in its common sense), and yet War is said to be father and king of *all*. Can the effects of war be held to apply even to those who do not indulge in it—can they be said to be 'free' and 'men, not gods' as a result of former wars, or wars elsewhere, or the absence of war? This is surely too abstruse. Another fragment quoted by Hippolytus, fr. 62, may be relevant: 'ἀθάνατοι θνητοί, θνητοὶ ἀθάνατοι, living their death, dying their life.' This seems to apply to men in general, not only to warriors. We have already seen in fr. 88 that Heraclitus held the living and the dead to be in a way identical, because each succeeds the other: whether this succession is invariable—whether mortals invariably become immortals—is another question. That they can so become proves the essential connexion between the two states. On the whole it is safer not to use fr. 62, itself so obscure in its limits of application, to explain fr. 53; it is obvious, however, that the two are in some way connected.

The problem remains: if war in this fragment refers (as the last clause strongly suggests) to the war of the battlefield, that is, war in its first and most concrete sense, then it is difficult to see how it can be called the father and king of all. Yet this must be remembered: we are not entitled to demand that Heraclitus should adhere to one kind of application of a concept, even within the limits of a single sentence. The careful schematization of the fragment suggests logical clarity, but this may be illusory: the sense may be 'War is universal (in the sense of fr. 80), and on the battlefield it is responsible for each of

three very different classes—gods, free men, slaves'. It is possible, indeed, that the last clause provides a close analogy to the previous clause: 'War controls all human destiny; it distinguishes gods from men *just as* on the battlefield it distinguishes slaves from free.' In this case war-strife as a general principle would show some as men, others as gods; the reference must be to what happens after death ('men' would be those who were found to be mortal in that their souls were destroyed by ceasing to be fire and becoming water), but not specifically to death in battle. Any kind of change—and death of whatever sort is a kind of change—implies the operation of strife in the sense of fr. 80, that is, the interaction of opposites. Yet such an example of parataxis where subordination of the last clause is clearly demanded by the sense would be unique in Heraclitus, even if it is not impossible in archaic prose style. Possibly the solution is that the inclusive force of πάντων should not be too strongly stressed; after all, the word occurs as part of the conventional Homeric description, and Heraclitus may have taken it for granted that war in its concrete sense only has power over those who fight, or their dependants. Perhaps we are tempted to take πάντων literally because we automatically take this fragment closely with fr. 80, in which strife is associated with all kinds of event, not merely with human events or the destiny of a certain class of humans—those involved in wars. This much remains clear amid the mass of possible conjecture: war in this fragment is personified and endowed with the power normally ascribed to Zeus. The fragment then is a strong paradox. Primarily it is war in its concrete sense which is in question: one of its effects as cited by Heraclitus, the making of slaves and free, is specifically associated with the war of the battlefield; the other effect mentioned, namely, the distinction between men and gods, may apply particularly to death in battle, if fr. 24 is rightly interpreted, but in view of general statements like frr. 62 and 88 it might conceivably be applicable in all spheres of life. In this case the concrete meaning of πόλεμος is temporarily associated with a metaphorical meaning as in fr. 80. In any case the fragment, even if it is a purely practical and concrete statement about war in a non-metaphorical sense, must have been used to substantiate the general principle asserted in fr. 80 in much the same way as the many fragments which simply mention practical instances of a coincidence of opposites were intended as illustrations of a general truth about opposites.

84a, b

(83, 82B)

Plotinus *Enneades* IV, 8, 1 (II, p. 142 Volkmann) ἀπορῶ...ὅπως ποτέ μοι ἔνδον ἡ ψυχὴ γεγένηται τοῦ σώματος...ὁ μὲν γὰρ Ἡράκλειτος, ὃς ἡμῖν παρακελεύεται ζητεῖν τοῦτο, ἀμοιβάς τε ἀναγκαίας τιθέμενος ἐκ τῶν ἐναντίων, ὁδόν τε ἄνω καὶ κάτω εἰπὼν καὶ **μεταβάλλον ἀναπαύεται** καὶ **κάματός ἐστι τοῖς αὐτοῖς μοχθεῖν καὶ ἄρχεσθαι,** εἰκάζειν δοκεῖ[1] ἀμελήσας σαφῆ ἡμῖν ποιῆσαι τὸν λόγον, ὡς δέον ἴσως παρ' αὐτοῖς[2] ζητεῖν ὥσπερ καὶ αὐτὸς ζητήσας εὗρεν.

1 ἔδωκεν cod., em. Volkmann. 2 αὐτῷ cod., em. Volkm.

I wonder...how at some time my soul has come-to-be inside my body....Now Heraclitus, who bids us seek this, supposing necessary exchanges from the opposites and talking of a way up and down and Changing it rests *and* It is weariness to toil for and be ruled by the same, *seems to conjecture—though neglecting to make the argument clear for us—as though we should perhaps seek in ourselves, as he also sought and found.*

These related fragments are preserved only in Neoplatonic sources, of which Plotinus is the earliest and most exact; cf. also Iamblichus *ap.* Stobaeum *Ecl.* I, 49, 39 (I, p. 378, 21 Wachsmuth), clearly based on Plotinus: καὶ τὸ μὲν τοῖς αὐτοῖς ἐπιμένειν κάματον εἶναι, τὸ δὲ μεταβάλλειν φέρειν ἀνάπαυσιν, and Aeneas Gazaeus *Theophrastus* 9 (Migne *P.G.* 85, col. 877): ...κάματος ἐπὶ τοῖς αὐτοῖς ἄνω μοχθεῖν καὶ τοῖς θεοῖς συμπεριπολεῖν καὶ ἄρχεσθαι. Plotinus' reference (*Enn.* IV, 8, 5) to ἡ Ἡρακλείτου ἀνάπαυλα ἐν τῇ φυγῇ is further explained by Aeneas, *loc. cit.* col. 881: ...Ἡρακλείτῳ ᾧ δοκεῖ τῶν ἄνω πόνων τῆς ψυχῆς ἀνάπαυλαν εἶναι τὴν εἰς τόνδε τὸν βίον φυγήν....

Plotinus in the passage where the fragments are quoted is clearly dependent upon Theophrastus; this may be inferred from a comparison with the detailed account at Diog. L. IX, 8, where exchange, opposition, and the way up and down are mentioned in the same order; ἀναγκαίας in Plotinus corresponds with τοῦτο δὲ γίνεσθαι καθ' εἱμαρμένην in Diogenes and the εἱμαρμένην ἀνάγκην in Theophrastus *Phys. op.* fr. 1 (see Table II on p. 24). In addition,

Plotinus' rebuke of Heraclitus for his obscurity reproduces the phrase σαφῶς δὲ οὐδὲν ἐκτίθεται in the same few lines of Diogenes. There, however, there is no mention of the two short sayings quoted by Plotinus; either these were found in a separate source by Plotinus or they belonged to the Theophrastean original but were neglected by Diogenes. The latter possibility cannot be dismissed; at any rate the two sayings, despite the lack of reference to them in other than Neoplatonic sources, seem to be genuine. Needless to say, the Neoplatonic interpretation provides no valid clue to their original sense, which probably had no more specific reference to the soul than did the 'way up and down' of fr. 60.

Diels adduced the scholium on Nicander *Alex.* 171ff. (DK 22A 14a): ὅτι δὲ δουλεύει ἡ θάλασσα καὶ τὸ πῦρ ἀνέμοις, κατὰ θεῖον νόμον δηλονότι, τοῦτο δὲ καὶ Ἡράκλειτος καὶ Μενεκράτης εἴρηκεν.... ἐκτίθεσθαι οὖν βούλεται διὰ τούτων καὶ Ἡράκλειτος ὅτι πάντα ἐναντία ἀλλήλοις ἐστὶ κατ' αὐτόν. We have no other sign that Heraclitus believed water and fire to be subservient to the winds, unless it be Aëtius III, 3, 9 (DK 22A14), which attributes to him a standard explanation of thunder as the result of the collision of winds and clouds. That fire can be blown out, and water stirred up or evaporated by wind, is a commonplace observation: perhaps Heraclitus made it. It seems more probable that the scholiast recognized the phrase πῦρ μὲν ἀείζωον in the Nicander passage as Heraclitean, and decided that Heraclitus was responsible for the whole sentiment. Menecrates here is probably but not certainly the Old Comedian, and may genuinely have made some such remark. The Nicander passage, together with its scholium, is of such dubious relevance to Heraclitus that it certainly cannot be used as evidence to settle a doubtful point. Diels accepted them, and the Neoplatonic interpretation, as relevant to the second saying in particular: the soul-fire becomes tired of serving the water and earth which compose the body. There is no justification whatever for this interpretation, which is accepted also by Kranz; the speculative nature of Plotinus' interpretation is shown by the phrase εἰκάζειν δοκεῖ, and the known Neoplatonic view that the soul descends to inhabit the body *for a change* shows why these general statements of Heraclitus were explained as they were.

Gigon 94 found the first saying explicable and the second one quite obscure, and maintained that they do not belong together.

He gave no reason for this view, nor is it easy to discover one. One saying mentions rest (ἀναπαύεται), the other its opposite (κάματος); one mentions change (μεταβάλλον), the other its opposite (τοῖς αὐτοῖς). 'Change is rest, no-change is weariness' is surely a legitimate summary of the content of the two sayings together; the second contains the additional concepts of service and being ruled. In fact they seem to belong so closely together that it may be wondered whether the καί which connects them was supplied by Heraclitus, so that they were originally continuous as in Plotinus; yet plainly Plotinus could have supplied the connexion here as after ὁδόν τε ἄνω καὶ κάτω, and it is safer to assume that he did so. Gigon commented on the paradoxical character of the first saying and compared it with fr. 51, διαφερόμενον ἑωυτῷ ξυμφέρεται. The same doubt exists in both cases whether an indefinite τι is to be understood as subject of the verb, or whether the participle is to be taken nominally, the definite article being omitted. In the present case the second explanation is the less likely, for the sense (which is not in doubt) is clearer if the participial force is emphasized, either temporally or causally: 'it rests while, *or* by, changing.' This looks like a generalization, and perhaps a specific subject should not be sought; even if τι is understood the translation should be 'anything (i.e. everything) rests by (while) changing'. This is not a paradox of quite the same order as the statements of the coincidence of opposites; here is no formal opposition between change and rest, but nevertheless our experience causes us normally to associate rest with absence of change, with stability rather than the reverse. The idea of 'rest' introduces a human criterion; ἀνάπαυσις is properly applied to animate subjects, and where it is not, the sense is metaphorical. Thus Heraclitus is not merely asserting that change is universal (in that everything is subject to it), he is giving an explanation of this fact—a metaphorical and incomplete one, it is true. '*It is restful* for things to change': this attempts to account for natural events in terms of human experience, much as Anaximander did with his δίκη, τίσις, ἀδικία, Empedocles with his νεῖκος and ἔρως, and ultimately even Aristotle with his κινεῖ ὡς ἐρώμενον. It has already been seen that in fr. 80 Heraclitus probably reacted consciously against Anaximander, not by abandoning but by reversing his metaphor of injustice; and in frr. 80 and 53 'war' is another metaphor derived from human experience and applied to external

events. In the present case the paradoxical nature of the statement suggests that Heraclitus is trying to account for change in terms of but not in accordance with men's own feelings; no sort of rational explanation is given and we are left little the wiser.

The compound μεταβάλλον is not dissimilar to μεταπεσόντα in fr. 88, which describes the replacement of one opposite by the other in the human body. Doubtless in fr. 84 too the change which is also rest is particularly change between opposites; for Heraclitus the preservation of opposites depends upon the continuation of change between them, and this change is an instrument rather than an end. ἀνάπαυσις recurs in fr. 111, where weariness (κάματος) is said to make rest (ἀνάπαυσιν) sweet and good; but in fr. 20 μᾶλλον δὲ ἀναπαύεσθαι must be a gloss by Clement or his source upon μόρους τ' ἔχειν. Gigon 94f. cites the two words χρησμοσύνη... κόρος in fr. 65 as a further example of terms of human experience being applied to the whole sum of things: this is possible. Fr. 77D, a later elaboration of fr. 36, includes the words τέρψιν ἢ θάνατον (of the soul becoming moist); one alternative or the other, probably the former, must be a gloss by Numenius—another example of the Neoplatonic conception of alterations in the condition of the soul being due to the desire for change.

The second saying quoted by Plotinus also seems to be a generalization; again the accepted facts of human experience are applied to things in general, but this time not paradoxically: just as it is wearisome for a servant to continue toiling for the same master without change of scene or occupation, so (it may be inferred) it is wearisome for matter of any kind to remain indefinitely in the same relationship with its surroundings. This gives the clue to the paradox of the first saying, and explains why change is restful. Why Heraclitus introduced the new idea of being ruled must remain doubtful; he could easily have said 'it is weariness to remain always in the same surroundings'. But this is certainly less graphic; possibly, too, the tiresomeness of serving *the same* master was proverbial.[1]

As they stand, then, the sayings of fr. 84 are of wide application, and in view of other comparable generalizations in this group they

[1] Reinhardt, *Parmenides* 194n. 2, held that this saying applies to the macrocosm, fr. 20 to the microcosm; he continues to accept ἀναπαύεσθαι in fr. 20 as Heraclitean, even at *Hermes* 77 (1942), 4.

may be taken to describe the behaviour of things in general. The second saying, including as it does the idea of being ruled, might conceivably have had a more specific meaning; we cannot entirely exclude the possibility that it applies to the soul and its changes, though the apparent external evidence for this is valueless; if it does so apply then τοῖς αὐτοῖς refers to the body or its constituents, and the changes of the soul (death, sleep?) come under the general principle of change between opposites. In conclusion, the analogy should be noted between the change-metaphor and the strife-metaphor: change (which seems to be tiring) is really restful; war and strife (which seem to be wrong) are really right.

125

(84B)

Theophrastus *de vertigine* 9 (III, p. 138 Wimmer) τὰ γὰρ πεφυκότα κινεῖσθαι τήνδε τὴν κίνησιν ἄλλοτε[1] καὶ συμμένει διὰ ταύτην, εἰ δὲ μή,[2] καθάπερ Ἡράκλειτός φησι, **καὶ ὁ κυκεὼν διίσταται ⟨μὴ⟩**[3] **κινούμενος.** εἴη δ' ἂν καὶ τῇ κυκλοφορίᾳ αὐτὸ τοῦτ' ἀποδιδόναι....

1 ἄλλοτε codd., σῴζεται coni. Wimmer, acc. Walzer. 2 εἰ δὴ coni. Bernays, acc. Bywater, Diels. 3 ⟨μὴ⟩ Bernays et omn., cf. Alex. Aphr. *Probl.* IV, 42.

For the things which by nature undergo this movement at other times even hold together because of it, but if it fails, then as Heraclitus says Even the barley-drink disintegrates if it is not moved. *It would be possible to give this same explanation for turning round, also....*

Bernays maintained that the μή which has to be supplied in the quotation was displaced and added to the line above; the original reading was εἰ δή, which became corrupted to εἰ δέ when μή was added. This is a possible, not a necessary emendation; for εἰ δὲ μή also gives a possible sense, perhaps a more logical one than εἰ δή if the vulgate ἄλλοτε is retained (and it is difficult to see what word this could have replaced); in this case there is a contrast between ἄλλοτε (= 'normally', i.e. when they are in motion) and εἰ δὲ μή (= 'otherwise', i.e. when they are not in motion).

The quotation proper cannot begin until καί or perhaps ὁ κυκεών. Theophrastus had employed διίστασθαι twice in the immediately preceding lines, but Heraclitus too could very well have used this common Homeric verb. That μή must be supplied is shown by the *Problemata* attributed to Alexander of Aphrodisias, IV, 42 (p. 11 Usener) ὁ δὲ κυκεών, ὥσπερ καὶ Ἡράκλειτός φησιν, ἐὰν μή τις ταράττῃ, διίσταται: the mss. give κυκλεύων and ἵσταται, which were emended by Usener, the first change being certainly correct. The preceding sentence in the *Problemata* is almost identical with one which came a little earlier in Theophrastus, who was certainly the source of this section in the later work. Quite apart from this support, μή is required by the sense; a positive assertion, whether διίσταται or ἵσταται be read, is out of the question; so much is

demonstrated by the futile attempts at an explanation of this kind by Lassalle, I, 75, and W. Schultz, *Archiv. f. Gesch. d. Philos.* 22 (1909) 202.

The constitution of the κυκεών is known from *Il.* XI, 638ff.: it is a posset made of ground barley, grated cheese and wine; at *Od.* X, 234 honey is added. The barley and cheese could not *dissolve* in the wine, and the mixture had to be stirred before it was drunk. If it were allowed to settle the barley and cheese would sink to the bottom, and what would be drunk would be neat wine, or wine and honey—but not κυκεών, for the mixture as such would no longer exist. This is one of those homely and concrete illustrations to which Heraclitus was particularly addicted. Many of them illustrate the coincidence of opposites; the present one must exemplify the result of an abolition of interchange and movement between opposites, such as that involved in the abolition of strife, for invoking which Homer was rebuked by Heraclitus; see p. 242f. The fragment contains a negative version of the view expressed in this group, that all things are subject to change, all opposites are opposed under tension (cf. fr. 51), war is father of all, it is universal and strife is 'the right way'. If change between opposites ceased, then the opposites themselves would cease to be connected with each other; the only unity between them, and so the only unity subsisting in the world, would be destroyed. There would be no such thing as κόσμος, just as there would be no such thing as κυκεών if its ingredients existed in isolation from each other. The fragment is of greater importance than at first appears: it is the only direct quotation that asserts, even though only in an image, the consequences of an interruption in the reciprocity of opposites; image though it is, its possible field of reference is not wide. The above interpretation seems to the present writer to be overwhelmingly probable; Gigon 118 was right to reject the possibility that the reference is to an ἀΐδιος κίνησις. This last is a doxographical concept; in so far as it is the nearest doxographical equivalent to the general Ionian assumption that all objects in the world of nature are subject to change and decay it is indirectly relevant to this fragment: but Heraclitus always thinks of change first and foremost as change between opposites, and as one of the essential preconditions of the unity underlying all opposites.

The image of the barley-posset became well known: it perhaps suggested the form of the no doubt fictitious anecdote, which has

a completely different point, about Heraclitus' symbolical drinking of the κυκεών (see p. 13), in Plutarch's account of which the stirring of the drink is specifically mentioned. Chrysippus, too, used the image according to Plutarch, *de Stoic. repugn.* 34, 1049F πρῶτον γὰρ ἐν τῷ πρώτῳ περὶ φύσεως τὸ ἀΐδιον τῆς κινήσεως κυκεῶνι παρεικάσας [sc. ὁ Χρύσιππος] ἄλλα ἄλλως στρέφοντι καὶ ταράσσοντι τῶν γιγνομένων.... Chrysippus also accepted the equivalence of war and Zeus, probably after fr. 53. In Marcus Aurelius also the barley-posset is a symbol for confusion (a sense not present in Heraclitus, it should be noticed); so at, for example, IX, 39 κυκεὼν καὶ σκεδασμός; cf. VI, 10; IV, 27. Lucian, in his section on Heraclitus at *Vit. auct.* 14, connects the posset with the πάντα ῥεῖ idea: ἔμπεδον οὐδὲν ἀλλά κως ἐς κυκεῶνα πάντα συνειλέονται. The last word, meaning 'are compressed', perhaps reproduces the Stoic interpretation of confusion; if so, Lucian is misleading on two scores—change for Heraclitus was not necessarily (as Plato had suggested) continuous for all things simultaneously, and above all it was not disordered; the reverse in fact was true. This idea of disorder was probably in Epicurus' mind when (according to Diog. L. X, 8 = fr. 238 Usener) he called Heraclitus κυκητής: though here the disorder is probably meant to be in the philosopher's own thought. This piece of abuse is another comparatively early evidence for the authenticity of the fragment.

II

(55 B)

[Aristotle] *de mundo* 6, 401a8 τῶν τε ζῴων τά τε ἄγρια καὶ ἥμερα, τά τε ἐν ἀέρι καὶ ἐπὶ γῆς καὶ ἐν ὕδατι βοσκόμενα, γίνεταί καὶ ἀκμάζει καὶ φθείρεται τοῖς τοῦ θεοῦ πειθόμενα θεσμοῖς· **πᾶν γὰρ ἑρπετὸν πληγῇ[1] νέμεται,** ὥς φησιν Ἡράκλειτος.

1 τὴν γῆν codd.; πληγὴν interpr. Armen.°; πληγῇ Stobaeus, Apuleius BF, accep. Bywater, Diels, Lorimer, et al.

And of living creatures both the wild and tame, those that graze in air and on earth and in water, are born and reach their prime and are destroyed in obedience to the ordinances of god: for Every animal is driven to pasture with a blow, *as Heraclitus says.*

This fragment cannot be assigned with certainty to this group.

The manuscript reading of *de mundo* can scarcely be right: 'every animal grazes on the earth' is surely too commonplace, and the article is unexpected; πληγῇ gives a commonplace sense, it is true, but one that can be related to that of other fragments. Stobaeus' version of this part of *de mundo*, *Ecl.* I, I, 36 (I, p. 45, 6 Wachsmuth), gives πληγῇ; so do the two best mss. of Apuleius' version according to Diels *SB Ber* (1901) 197ff., followed by P. Thomas in the Teubner text of Apuleius' philosophical works (Apuleius *de mundo* 36, p. 172, 15 Thomas); this is accepted too by W. L. Lorimer in his valuable edition of the pseudo-Aristotelian treatise, p. 98 n. I. The quotation is transcribed into an attempt at Greek by scribes who were ignorant of Greek script. Even if we accept that OCCarrl or OSSaRI and offahyti or OSahYTI represent ΠΛΗΓΗΙ, we may hesitate to suppose that the initial O is a remnant of, or attempt to reproduce, $\overline{\Theta Y}$ (=θεοῦ), which is what Diels suspected. In his note in *VS* he did not press for the addition of θεοῦ to the fragment, but held that the context shows that this word must be understood. Assuming that the author of *de mundo* took the quotation as a comprehensive illustration of his own point, this is so; but such an assumption is quite unnecessary. The whole context asserts that all things in nature, plants and animals as well as the heavenly bodies,

behave as parts of a single organism; before the present passage three lines of the *Odyssey* were quoted which merely enumerated certain trees. The quotation from Heraclitus, even without θεοῦ, is more relevant than that; it does not merely mention animals, it asserts that animals behave as the result of a stimulus to which they are all susceptible. For the author of *de mundo* this in itself was sufficient to justify his quotation. We cannot be sure that he did not understand the stroke or blow to be god's, but even if he did, this tells us nothing of what Heraclitus intended.

It is probable that Plato refers to the fragment at *Critias* 109B, C: the gods, he wrote, οἷον νομῆς ποίμνια, κτήματα καὶ θρέμματα ἑαυτῶν ἡμᾶς ἔτρεφον, πλὴν οὐ σώμασι σώματα βιαζόμενοι καθάπερ ποιμένες κτήνη πληγῇ νέμοντες, ἀλλ'...οἷον οἴακι πειθοῖ ψυχῆς ἐφαπτόμενοι κατὰ τὴν αὑτῶν διάνοιαν, οὕτως ἄγοντες τὸ θνητὸν πᾶν ἐκυβέρνων. There is little justification for believing, like Bergk followed by Diels, that οἴακι and ἐκυβέρνων are references to frr. 64 and 41 respectively, since these words and the metaphor they represent are commonly employed by Plato. Diels (*SB Ber* (1901), 196 n. 3) was probably correct in believing that Proclus *in Rempubl.* II, 20, 23 Kroll depends upon Plato rather than Heraclitus—in fact, this passage may be derived from a Stoic source: αὐτοκινήτως γὰρ ζῶσιν καὶ οὐ περιάγονται μόνον ὑπὸ τῆς εἱμαρμένης, ὥσπερ τὰ πληγῇ νεμόμενά φασιν, ἀλλὰ καὶ ἑαυτὰς περιάγουσιν. The same applies to two other Neoplatonist uses of the phrase τὰ πληγῇ νεμόμενα, Proclus *in Alc.* I, 279, 19 Creuzer and Olympiodorus *in Alc.* II, 178, 18 Creuzer. A much more significant parallel to the fragment is provided by Cleanthes, *Hymn to Zeus* 9ff. τοῖον ἔχεις ὑποεργὸν ἀνικήτοις ἐνὶ χερσὶν | ἀμφήκη πυρόεντα ἀειζώοντα κεραυνόν· | τοῦ γὰρ ὑπὸ πληγῆς φύσεως πάντ' ἔρ⟨γα πέπ⟩ηγεν,[1] | ᾧ σὺ κατευθύνεις κοινὸν λόγον ὃς διὰ πάντων | φοιτᾷ κτλ. This passage undoubtedly contains echoes of Heraclitus, e.g. πυρόεντα ἀειζώοντα is a clear reminiscence of πῦρ ἀείζωον in fr. 30. We are not entitled to assume, however, that the (κεραυνοῦ) πληγή in the next line is another such reference, and thus that Διός or θεοῦ should

[1] So Pohlenz, *Hermes* 75 (1940) 120, for ms. ἔρηγα. Ursinus followed by Diels read ἐρρίγασιν: Wilamowitz ἔρριγεν ἅπαντα: von Arnim ἔργα ⟨τελεῖται⟩. Pohlenz pointed out that emendations giving the sense 'at which all things shudder' are improbable in view of the statement in lines 7–8 that 'all this world...is *willingly* (ἑκών) ruled by you'.

be understood in fr. 11. There is nothing in Cleanthes about ἑρπετά or ζῷα to suggest that he had the fragment in mind; admittedly ἕρπει occurs in line 5, but as a reminiscence of, for example, *Il.* XVII, 447 ὅσσα τε γαῖαν ἔπι πνείει τε καὶ ἕρπει. On the other hand, Cleanthes was doubtless influenced, in his use of πληγή, by the comparatively common references in tragedy to the 'stroke of Zeus': cf. Aesch. *Ag.* 367 Διὸς πλαγὰν ἔχουσιν εἰπεῖν; *Sept.* 608 πληγεὶς θεοῦ μάστιγι; Soph. *Ai.* 137 πληγὴ Διός; *ibid.* 278 ᾽κ θεοῦ πληγή τις; *idem*, fr. 961 θεοῦ δὲ πληγήν. Diels in *VS*, followed by Kranz, considered that the existence of this kind of phrase supported his view that θεοῦ is to be understood in the fragment: but the existence of a common metaphorical use of a word does not mean that all uses of that word are to be interpreted metaphorically. In Cleanthes, it should be noted, the blow is the blow of the thunderbolt, not of Zeus directly: it is a symbol for the τόνος which holds things together and by its two-way pull gives them stability and strength (cf. πάντ᾽ ἔργα πέπηγεν). This τόνος was evidently described by Cleanthes as a blow of *fire*, cf. fr. 563 v. Arnim, *ap.* Plut. *de stoic. repug.* 7, 1034D: ὁ δὲ Κλεάνθης ἐν ὑπομνήμασι φυσικοῖς εἰπὼν ὅτι πληγὴ πυρὸς ὁ τόνος ἐστί κτλ. Thus the connexion between (Διὸς) κεραυνός and πληγή in Cleanthes is based upon a purely Stoic conception; this is not to deny that this conception was expressed by means of separate symbols derived from earlier thought —but not necessarily Heraclitean symbols, since the thunderbolt as the weapon of Zeus, and the 'blow' of heaven, are common ideas in tragedy and elsewhere.

The conclusion is that Cleanthes' *Hymn* is of no positive value in the interpretation of Heraclitus fr. 11, and that the supposition that the blow mentioned there is a divine one is virtually unsupported. 'Every animal is driven to pasture with a blow' makes sense as it stands, and is as true as any such generalization is liable to be. The 'blow' is the quite concrete kick or lash or prick which you give to a cow or a donkey; this is what the words ascribed to Heraclitus imply and this is how they must be taken in default of stronger considerations than those adduced by Diels and his supporters.

To consider the fragment by itself: γάρ obviously belongs to the context in *de mundo*. ἑρπετόν means 'a creeping thing', or, more literally, 'something that moves with its trunk parallel to the ground', i.e. κτήνεα, other four-footed animals, and reptiles; birds

and fishes are excluded. So too, normally, are men; at *Od.* IV, 418 ὅσσ᾽ ἐπὶ γαῖαν | ἑρπετὰ γίγνονται describes some of the things Proteus might turn into, and therefore probably not men; on the other hand *Il.* XVII, 447, cited above, includes men—but the verb is perhaps less definite in application than the noun. Men are formally included among ἑρπετά at Xenophon *Mem.* I, 4, 11, τοῖς μὲν ἄλλοις ἑρπετοῖς πόδας ἔδωκαν...ἀνθρώπῳ δὲ καὶ χεῖρας, though ἄλλος in cases like this is often used loosely. On the whole it is probable that the meaning of the fragment is restricted to animals (and, of course, to domestic animals that can be grazed). This does not prevent us from taking it as an illustration or example of some wider statement which has been lost. At its face value it is somewhat banal; and Heraclitus was fond of concrete illustrations of generalizations. Cattle are driven with blows; men, perhaps, are driven with a different kind of blow (a divine one?—Diels' interpretation here makes a different claim for consideration). But nowhere else in the fragments do we hear of a blow, of god or Logos, directing men; on the contrary, most men are able to neglect the Logos and live in private worlds. However, Gigon 146 dubiously subscribed to this kind of interpretation, and added: 'Das ist ein verächtliches Bild, wie es in der Gegenüberstellung Gott-Mensch angemessen ist'; cf. fr. 64 and p. 355f. He performed the useful service of strongly questioning the relevance to Diels' argument of Nicander *Alex.* 171ff. (DK 22A 14a). Apart from the one phrase πῦρ μὲν ἀείζωον there is probably nothing Heraclitean here: see p. 251, where the scholium also is dismissed as evidence.

Nestle's conjecture of the fragment's meaning was that '...alles Existierende—also auch alles Lebendige—unverbrüchlichen Gesetzmässigkeit unterliegt' (ZN 912): but although this accords well with Heraclitus' emphasis on the importance of μέτρον, it involves reading a great deal into one simple concrete illustration. Nestle was perhaps over-influenced by the context in *de mundo*. Wilamowitz (*Gr. Lesebuch* II, 132) is more credible: 'Heraklit hatte nur gemeint "alles Vieh (und so die Menschen) wird mit dem Schlage geweidet"; ohne Gewalt geht es nicht ab; πόλεμος πατὴρ πάντων....' The connexion of the fragment in this way with frr. 80 and 53 is not a necessary one; war is no more exclusively a symbol for the *motive* of change in Heraclitus (as it certainly is for Empedocles) than it is for the *fact* of change. War is common not only to

all men, but also to all things and events (fr. 80 . . . γινόμενα πάντα κατ' ἔριν καὶ χρεών). In the case of ἑρπετά the opposition between them and their masters is an instance of this war: perhaps the fragment means no more than this. Perhaps, after all, men are included, contemptuously as Gigon suggested: men too are driven, but with different blows, e.g. wars, ambition, hunger and want—this was the view of H. Gomperz, *Zeits. f. öst. Gymn.* (1910) 963. Conceivably we should interpret the fragment in the sense of fr. 29 (. . .οἱ δὲ πολλοὶ κεκόρηνται ὅκωσπερ κτήνεα) as referring only to the foolish majority of men who need driving like cattle, with blows such as Heraclitus himself administers, towards an apprehension of the Logos. R. Hackforth suggests that the emphasis might be on νέμεται: animals have to be driven even to get their essential food (and similarly men have to be driven before they obtain the bare minimum of understanding, i.e. of the Logos). Thus there are many possible interpretations once the fragment is separated, as it should be, from the context in which it is quoted. On the whole I think it as likely as not to be a concrete illustration of the universality of strife: the opposition between man and beast may typify that between man and his surroundings, or the action and reaction between all things absolutely.

GROUP 9

Frr. 6, 3, 94, 120, 100 [+137D]

The fragments of this group deal with astronomical phenomena and their laws. The first four all concern the sun: frr. 6 and 3 consist of apparently naïve assertions about it, fr. 94 emphasizes its regularity, and fr. 120 also, if it is not merely an enumeration of the four main directions, stresses the same point. Under fr. 6 is discussed the theory ascribed to Heraclitus by Diogenes Laertius, presumably after Theophrastus, that the heavenly bodies were bowls in which exhalations burned. This is here accepted as a basically true account (though the dry exhalation is due to Aristotle), from which, however, it is clear that Heraclitus did not devote much time to meteorological-astronomical events, or describe them exhaustively. The bowl-theory is itself sufficiently dogmatic to suggest that the naïve observation of frr. 6 and 3 is not merely intended as a criticism of Milesian dogmatism; nevertheless, Heraclitus evidently tried to be empirical in astronomy. Fr. 6 may also be intended as an assertion of measure in large-scale natural phenomena, as one aspect of the regularity which he detected in all natural change. Fr. 100 should probably be connected with the theories attributed to Heraclitus in doxographical sources, concerning the human generation and a 'great year'; human and natural cycles are parallel, and changes in either are regular and interrelated. It is to this inherent regularity that fr. 137D must refer, if it is not merely a Stoic accretion.

6

(32 B)

Aristotle *Meteorologica* B2, 354b33 διὸ καὶ γελοῖοι πάντες ὅσοι τῶν προτέρων ὑπέλαβον τὸν ἥλιον τρέφεσθαι τῷ ὑγρῷ. καὶ διὰ τοῦτ' ἔνιοί γέ φασι καὶ ποιεῖσθαι τὰς τροπὰς αὐτόν· οὐ γὰρ ἀεὶ τοὺς αὐτοὺς δύνασθαι τόπους παρασκευάζειν αὐτῷ τὴν τροφήν. ἀναγκαῖον δ' εἶναι τοῦτο συμβαίνειν περὶ αὐτὸν ἢ φθείρεσθαι· καὶ γὰρ τὸ φανερὸν πῦρ, ἕως ἂν ἔχῃ τροφήν, μέχρι τούτου ζῆν, τὸ δ' ὑγρὸν τῷ πυρὶ τροφὴν εἶναι μόνον, ὥσπερ ἀφικνούμενον μέχρι πρὸς τὸν ἥλιον τὸ ἀναγόμενον τοῦ ὑγροῦ, ἢ τὴν ἄνοδον τοιαύτην οὖσαν οἵανπερ τῇ γιγνομένῃ φλογί, δι' ἧς τὸ εἰκὸς λαβόντες οὕτω καὶ περὶ τοῦ ἡλίου ὑπέλαβον. τὸ δ' οὐκ ἔστιν ὅμοιον· ἡ μὲν γὰρ φλὸξ διὰ συνεχοῦς ὑγροῦ καὶ ξηροῦ μεταβαλλόντων γίγνεται καὶ οὐ τρέφεται (οὐ γὰρ ἡ αὐτὴ οὖσα διαμένει οὐθένα χρόνον ὡς εἰπεῖν), περὶ δὲ τὸν ἥλιον ἀδύνατον τοῦτο συμβαίνειν, ἐπεὶ τρεφομένου γε τὸν αὐτὸν τρόπον, ὥσπερ ἐκεῖνοί φασι, δῆλον ὅτι καὶ **ὁ ἥλιος** οὐ μόνον καθάπερ ὁ Ἡράκλειτός φησι **νέος ἐφ' ἡμέρῃ ἐστίν,** ἀλλ' ἀεὶ νέος συνεχῶς.

Hence all those earlier thinkers are absurd who supposed that the sun is nourished by moisture. Some of them, indeed, say that this is the cause of the solstices; for the same regions cannot continuously supply the sun with its nourishment, and it must inevitably be nourished in this way or perish. For visible fire lives just so long as it has nourishment, and moisture is fire's only nourishment—as though the moisture which is drawn up could reach as far as the sun, or this ascent were of the same kind as the coming-to-be of flame, on the analogy of which this supposition about the sun is based! For flame is constantly coming-to-be, by a constant interchange of moist and dry; it is not nourished, seeing that it hardly remains the same for a single instant. This cannot be the case with the sun, since if it were nourished in the same way, as they say it is, it is clear that The sun is *not only* new every day, *as Heraclitus says, but always new at every moment.*

Cherniss 133 n. 541 argued that this whole passage refers only to Heraclitus and his followers and not, as has been generally thought, to a whole group of early φυσικοί. Certainly Alexander, commenting on 353b5, was wrong in saying that *Anaximander* explained solstices as a search for nourishment; for there and at 355a21 Aristotle distinguishes one group of people who said that at first the earth was moist, then it was dried by the sun, and air was generated and caused the solstices. Elsewhere Alexander plausibly assigned this belief to Anaximander and Diogenes of Apollonia, to whom Anaximenes should be added; the idea of the earth drying out from primeval moisture was a not uncommon Ionian one, held also by Xenophanes and Archelaus (it was not in fact invariably associated with the explanation of solstices as due to wind). Aristotle clearly contrasts with this theory of solstices the theory in our passage that they were due to the sun's search for food. Probably Heraclitus did think that sun and moon were nourished by moisture: cf. Aëtius II, 17, 4 Ἡράκλειτος...τρέφεσθαι τοὺς ἀστέρας ἐκ τῆς ἀπὸ γῆς ἀναθυμιάσεως. However, this is the only occurrence of τροφή or τρέφεσθαι in the doxography of Heraclitus, and it is in any case partly false, for according to other accounts it was the moist exhalation, not the earthy one, that was burned in the bowls of the sun and moon. Cherniss adduces the following considerations to support his view that only Heraclitus and his followers are meant: (1) the direct mention of Heraclitus as author of the quotation; (2) the nourishment by *moisture* (cf. fr. 31, he presumably means, where sea turns somehow into fire); (3) the implication of the theory of *de victu* I, 3 that the sun's search for moist nourishment is also Heraclitean; (4) ἄνοδον at 355a6, referring to the ὁδὸς ἄνω in fr. 60; (5) 'the implication that the theory in question distinctly called the process τροφή and not γένεσις (355A9–11)'. But these indications fall far short of proof, and some of them are invalid: (3) assumes that *de victu* I, 3 refers (*a*) to solstices, and (*b*) to Heraclitus; but there is grave doubt on both points. The passage states as a general rule that there is a reciprocal movement between fire and water, since fire approaches water to obtain nourishment from it and water recedes at the too close approach of fire. There is no mention of the sun; and although there is much imitation of Heraclitus from I, 5 onwards, there is nothing recognizably Heraclitean here (so Fredrich, hotly opposed by Burnet 150 and 155–6). There is much borrowing in this treatise from other sources also, particularly from Anaxagoras, Empedocles, Archelaus, and unidentifiable medical sources: the interaction between fire and water looks like a combination of

Archelaus' theories with medical theories of τὸ ὑγρόν as τροφή. (4) is very slight: we know that Theophrastus misinterpreted fr. 60 as referring to a cycle of matter, but not that Aristotle did so. As for (5), it has already been seen that the idea of τροφή is not particularly Heraclitean; though in addition to the doxographical passage already quoted Heraclitus used τρέφονται quasi-metaphorically in fr. 114. It is probable, though still not certain, that he believed the sun to be nourished by moisture (see below), but this may have been a widespread popular account: according to Antiphon fr. 26 the sun is fire 'grazing upon' moisture; Aristotle suggested that one of Thales' reasons for the choice of water as principle was that the warm comes-to-be and lives by water (*Met.* A 3, 983b23), and Aëtius, I, 3, 1, expanded this into a regular exhalation-theory; the search for food is mentioned as one possible motive for the revolution of the stars at Lucretius v, 523ff. The more specialized view that the solstices are due to the sun's search for nourishment may also have been a popular, non-scientific one; but the evidence for connecting this explanation with Heraclitus is very slight (cf., for example, the fact that Cleanthes, who in physics sometimes followed Heraclitus, is said by Cicero, *N.D.* III, 14, 37, to have subscribed to this view).

Thus only the specific reference to Heraclitus in this passage of the *Meteorologica* can be used as sure evidence for our purpose. Aristotle attempts to discredit the theory that the sun feeds on moisture by asserting that the sun does not behave like an ordinary flame—or if it does, it must be continually changing (not merely new every day as Heraclitus said), which is absurd. The argument is not a good one; according to Aristotle's own interpretation elsewhere Heraclitus ought to have agreed that the sun was new all the time, which is, after all, a hypothesis worth considering. It is conceivable that there should be no pause after ἐστίν: '...it is clear that, as Heraclitus says, the sun is not only new every day but new all the time.' This accords with the πάντα ῥεῖ interpretation of Heraclitus, and does not weaken Aristotle's sense; but if this were the meaning καθάπερ ὁ Ἡράκλειτός φησι would more naturally precede οὐ μόνον. Alexander and Olympiodorus understood the quotation to end at ἐστίν, and, especially in view of the fact that other substantiation for the πάντα ῥεῖ interpretation is lacking, we may do likewise. Now if Aristotle's reference to Heraclitus is a serious one—if, that is, he

wished to make an exact scientific comparison with the earlier theory and not merely to take a well-known expression out of its context and pervert its sense for his own stylistic rather than scientific purposes—then Heraclitus must have meant that the sun's matter is gradually renewed during every twenty-four hours, not that a completely new sun is born each day (like Xenophanes' sun, which continues on in a straight line and disappears altogether each day), or that it is extinguished at evening and rekindled at dawn: so also Reinhardt, *Hermes* 77 (1942) 235. But that this last is precisely what Heraclitus did mean is suggested by the commentators upon Aristotle and the scholiast on Plato *Rep.* 498A; and, indeed, Aristotle is as likely as not to have used the quotation in a light-hearted and inexact fashion, especially since he did not normally consider Heraclitus worthy of serious attention:

Alexander *in Meteor.* p. 72 Hayd.	Olympiod. *in Meteor.* p. 136 Stüve	Σ in Plat. *Remp.* 498A
εἰ γε ἐτρέφετο ὁ ἥλιος οὕτως ὡς καὶ τὸ πῦρ, καθ' ἅ φασιν, οὐ μόνον ὡς Ἡ. φησιν νέος ἐφ' ἡμέρῃ ἂν ἦν, καθ' ἑκάστην ἡμέραν ἄλλος ἐξαπτόμενος τοῦ πρώτου ἐν τῇ δύσει σβεννυμένου, ἀλλ' ἀεί τε καὶ συνεχῶς νέος τε καὶ ἄλλοτε ἄλλος ἐγίνετο....	ὑπερβησόμεθα δὲ τὴν Ἡρακλείτου παραδοξολογίαν· οὐκέτι γὰρ νέος ἐφ' ἡμέρῃ γενήσεται ὁ ἥλιος διὰ τὸν Ἡ. ἀλλὰ νέος καθ' ἕκαστον νῦν. ἔλεγε γὰρ ὁ Ἡ. ὅτι πῦρ ὑπάρχων ὁ ἥλιος, ὅταν μὲν ἐν ταῖς ἀνατολαῖς ὑπάρχῃ ἀνάπτεται διὰ τὴν ἐκεῖσε θερμότητα· ὅταν δὲ ἐν ταῖς δυσμαῖς ἔλθῃ σβέννυται διὰ τὴν ἐκεῖσε ψῦξιν.	Ἡ. ὁ Ἐφέσιος φυσικὸς ὢν ἔλεγεν ὅτι ὁ ἥλιος ἐν τῇ δυτικῇ θαλάσσῃ ἐλθὼν καὶ καταδὺς ἐν αὐτῇ σβέννυται, εἶτα διελθὼν τὸ ὑπὸ γῆν καὶ εἰς ἀνατολὴν φθάσας ἐξάπτει πάλιν, καὶ τοῦτο ἀεὶ γίνεται.

All these commentaries go beyond Aristotle and agree that according to Heraclitus the sun is kindled in the morning when it rises in the east, and extinguished in the evening when it sets in the west; Olympiodorus adds that this is due to cold in the west and heat in the east, while the Platonic scholiast holds that the extinction is caused by submersion in the western sea, and that the sun then passes to the east below the earth's surface (διελθὼν τὸ ὑπὸ γῆν). Perhaps Reinhardt, *Hermes* 77 (1942) 236 n. 3, was right in thinking that Olympiodorus' comment is a perversion of the account represented by the scholiast, and that Alexander is independent; at all events all three agree in the ascription of ἅπτεσθαι and σβέννυσθαι to Heraclitus' sun. Here we must consider Plato *Rep.* 498A πρὸς δὲ τὸ γῆρας ἐκτὸς δή τινων ὀλίγων ἀποσβέννυνται πολὺ μᾶλλον τοῦ

Ἡρακλειτείου ἡλίου, ὅσον αὖθις οὐκ ἐξάπτονται. This important passage is the earliest extant reference to Heraclitus' sun; what Plato must have had in mind was not merely a statement that the sun is new every day, but rather a statement that it is extinguished but rekindled later. Plato has been considering the proper age for the study of philosophy: at present, he says, enthusiasm for it is entirely extinguished in old age, more so indeed than Heraclitus' sun, which is at least rekindled. Reinhardt, *op. cit.* 237, pointed out that ἐξάπτονται is a pun (one which recurs in fr. 26); for Plato had just before twice used ἅπτεσθαι in its other sense of 'touch', meaning here 'to have to do with philosophy': . . .τοὐναντίον ἢ νῦν δεῖ τοῦ ἐπιτηδεύματος τούτου πόλιν ἅπτεσθαι (497 E; the text in Reinhardt is corrupt), and οἱ καὶ ἁπτόμενοι μειράκια ὄντα (498 A *init.*). Therefore ἐξάπτονται (and so ἀποσβέννυνται also) in the reference to Heraclitus is not used casually or by accident. It is possible that Plato was thinking, not of an independent assertion that the sun is quenched and kindled, but merely of fr. 30, where this κόσμος is described as a πῦρ ἀείζωον ἁπτόμενον μέτρα καὶ ἀποσβεννύμενον μέτρα. Admittedly this has nothing to do with the sun (*contra* Olympiodorus *in Phaed.* p. 237 Norvin); but Plato, who was not meticulous in his handling of Heraclitus, might have felt entitled to apply a well-known Heraclitean phrase to a separate, but equally well-known, Heraclitean view that the sun is new each day.

Gigon 85 and Reinhardt, *op. cit.* 237, conclude, however, that Heraclitus' remark about the sun must have continued like fr. 30 with the verbs ἅπτεται and σβέννυται or their compounds: but they disagree about the implication of these verbs. Gigon assumes that μέτρα in fr. 30 must refer to temporal periods (in which I think he is wrong; see under fr. 30), and that since the sun-statement is so similar, and according to Plato and the commentators the sun has periods also, of extinction and burning, this supports his assumption. Reinhardt, on the other hand, maintains (*Hermes* 77 (1942) 244) that the kindling and extinguishing in fr. 30 proceed simultaneously (with this view I agree), and that the sun too must be continuously expending and renewing itself. He refers to the context in Aristotle, which is of small value, and to Plotinus *Enn.* II, 1, 2 . . .τῷ Ἡρακλείτῳ, ὃς ἔφη ἀεὶ καὶ τὸν ἥλιον γίνεσθαι. The commentators, he thought, simply misinterpreted ἅπτεται and σβέννυται by referring them to periodic changes—as Alexander had misinterpreted fr. 30,

following Theophrastus: see Simpl. *de caelo* p. 294 Heiberg, quoted under fr. 30—and then took the opportunity of attributing to Heraclitus the old popular idea of the sun being quenched in Okeanos and later rekindled in the east.

I accept the view that fr. 6 originally continued with an assertion that the sun is somehow kindled and extinguished; for although Plato and the commentators might have been led to imply this by confusion with fr. 30, it is improbable that they should have made this confusion independently—and as Reinhardt, *op. cit.* 238, remarked, it is unlikely that the Aristotelian commentators are dependent here on Plato, whose context is very different from theirs. But both Gigon and Reinhardt share one assumption which is totally unjustified, that the sense of ἅπτεται and σβέννυται in the original sun-statement must be parallel in sense with ἁπτόμενον μέτρα καὶ ἀποσβεννύμενον μέτρα in fr. 30. This last phrase certainly refers to simultaneous kindling and extinction (though the parts which are kindled are different from those which are simultaneously extinguished); but the sun-statement may perfectly well have been concerned with *periods*. The commentators are explicit that this was the case: they may have been merely applying Theophrastus' false periodicity-interpretation of Heraclitus, but if some part of the evidence is misleading it is at least as easy to assume that Aristotle misapplied his quotation from Heraclitus, as to suppose that Plato and all the commentators, who certainly go beyond the passages on which they were commenting, are wrong. Plotinus here is of negligible evidential value, being an extremist follower of the πάντα ῥεῖ interpretation.

The commentators' accounts, and particularly that of the scholiast on Plato, suggest that Heraclitus subscribed to the mythological idea that the sun was carried round Okeanos, in a bowl, from west to east. The archaic *loci classici* for this myth are Mimnermus fr. 10 Diehl and Stesichorus fr. 6 Diehl; the latter begins as follows:

> Ἀέλιος δ' Ὑπεριονίδας δέπας ἐσκατέβαινε
> χρύσεον, ὄφρα δι' Ὠκεανοῖο περάσας
> ἀφίκοιθ' ἱερᾶς ποτὶ βένθεα νυκτὸς ἐρεμνᾶς
> ποτὶ ματέρα κουριδίαν τ' ἄλοχον παῖδάς τε φίλους.

There is nothing in the myth about the sun being quenched, either by water or by cold. But we *are* told in Diogenes' fuller account of Theophrastus that according to Heraclitus the heavenly bodies are

σκάφαι (= 'bowls'; the word later means 'boat', e.g. at Aristophanes *Knights* 1315). There is no indication that these bowls were used like the sun's bowl in the myth, to sail round Okeanos; but they might be a development of the mythological story. There is nothing in the fragments to support the truth of the doxographical account of σκάφαι (nor is there any mention of fr. 6 in the doxographical sources); but this is such an unusual idea, so different from the sort of thing which would be invented by Theophrastus or a doxographer, or imported from another source to fill a gap, that it deserves provisional acceptance as belonging to Heraclitus. There is one statement which refers the theory to Alcmaeon and Antiphon also, Aëtius II, 29, 3 'Αλκμαίων 'Ηράκλειτος 'Αντιφῶν κατὰ τὴν τοῦ σκαφοειδοῦς στροφὴν καὶ τὰς περικλίσεις [sc. ἐκλείπειν τὴν σελήνην]. The lemma (preserved only in Stobaeus, not in pseudo-Plutarch) may be at fault, though another theory in one respect similar to Heraclitus'—that the sun feeds on moist air, and its rising and setting are due to the search for this—is attributed to Antiphon by Aëtius II, 20, 15; Antiphon was an eclectic in his physical theories, and it is not impossible that he accepted part of Heraclitus' astronomy.

Deductions from fr. 6 can be carried no further; but this is an appropriate place to describe and assess the Theophrastean (presumably) account, already mentioned, of Heraclitus' explanation of the heavenly bodies. This is one of the very rare topics, together with the generation and 'great year', and Sextus' account of the soul's contact with the outside world, on which the post-Aristotelian tradition has anything credible to add to the extant fragments. All the relevant information is contained in Diogenes' ἐπὶ μέρους account (for the earlier part of which see Table II on p. 24, and p. 328), Diog. L. IX, 9–11 γίνεσθαι δὲ ἀναθυμιάσεις ἀπό τε γῆς καὶ θαλάττης, ἃς μὲν λαμπρὰς καὶ καθαράς, ἃς δὲ σκοτεινάς. αὔξεσθαι δὲ τὸ μὲν πῦρ ὑπὸ τῶν λαμπρῶν, τὸ δὲ ὑγρὸν ὑπὸ τῶν ἑτέρων. τὸ δὲ περιέχον ὁποῖόν ἐστιν οὐ δηλοῖ· εἶναι μέντοι ἐν αὐτῷ σκάφας ἐπεστραμμένας κατὰ κοῖλον πρὸς ἡμᾶς, ἐν αἷς ἀθροιζομένας τὰς λαμπρὰς ἀνθυμιάσεις ἀποτελεῖν φλόγας, ἃς εἶναι τὰ ἄστρα. (10) λαμπροτάτην δὲ εἶναι τὴν τοῦ ἡλίου φλόγα καὶ θερμοτάτην. τὰ μὲν γὰρ ἄλλα ἄστρα πλεῖον ἀπέχειν ἀπὸ γῆς καὶ διὰ τοῦτο ἧττον λάμπειν καὶ θάλπειν, τὴν δὲ σελήνην προσγειοτέραν οὖσαν μὴ διὰ τοῦ καθαροῦ φέρεσθαι τόπου. τὸν μέντοι ἥλιον ἐν διαυγεῖ καὶ ἀμιγεῖ κεῖσθαι καὶ σύμμετρον ἀφ' ἡμῶν ἔχειν διάστημα· τοιγάρτοι μᾶλλον

θερμαίνειν τε καὶ φωτίζειν. ἐκλείπειν τε ἥλιόν τε καὶ σελήνην ἄνω στρεφομένων τῶν σκαφῶν· τούς τε κατὰ μῆνα τῆς σελήνης σχηματισμοὺς γίνεσθαι στρεφομένης ἐν αὐτῇ κατὰ μικρὸν τῆς σκάφης. ἡμέραν τε καὶ νύκτα γίνεσθαι καὶ μῆνας καὶ ὥρας ἐτείους καὶ ἐνιαυτοὺς ὑετούς τε καὶ πνεύματα καὶ τὰ τούτοις ὅμοια κατὰ τὰς διαφόρους ἀναθυμιάσεις. (11) τὴν μὲν γὰρ λαμπρὰν ἀναθυμίασιν φλογωθεῖσαν ἐν τῷ κύκλῳ τοῦ ἡλίου ἡμέραν ποιεῖν, τὴν δὲ ἐναντίαν ἐπικρατήσασαν νύκτα ἀποτελεῖν· καὶ ἐκ μὲν τοῦ λαμπροῦ τὸ θερμὸν αὐξόμενον θέρος ποιεῖν, ἐκ δὲ τοῦ σκοτεινοῦ τὸ ὑγρὸν πλεονάζον χειμῶνα ἀπεργάζεσθαι. ἀκολούθως δὲ τούτοις καὶ περὶ τῶν ἄλλων αἰτιολογεῖ. περὶ δὲ τῆς γῆς οὐδὲν ἀποφαίνεται ποιά τίς ἐστιν, ἀλλ' οὐδὲ περὶ τῶν σκαφῶν. From this it may be seen that the theory of bowls is essentially connected with that of ἀναθυμιάσεις, exhalations: for what burns inside the bowl is part of the bright-pure exhalation. That Theophrastus, in the original of this passage of Diogenes, was trying to give a fair account is shown by the complaint that Heraclitus described neither τὸ περιέχον nor the constitution of the earth and the celestial bowls. Nevertheless some Peripatetic expansion is detectable, notably the statement that the sun's distance is 'commensurate'; and there is doubtless more. A notable coincidence between Peripatetic theories, as represented by Aristotle's *Meteorologica*, and this account of Heraclitus is the theory of *two* exhalations, one from the land and one from the sea. Unfortunately there seems to have been doxographical confusion between the idea implicitly ascribed to Heraclitus (p. 264), that the sun is nourished by moisture, and the two-exhalation theory later developed by Aristotle himself—for him, fire was kindled from the dry land-exhalation (and not nourished by the moist one from the sea). Thus the land-exhalation is said to nourish the heavenly bodies in Heraclitus according to Aëtius II, 17, 4; contrast e.g. II, 28, 6...τοὺς ἀστέρας, δεχομένους τὰς ἀπὸ τῆς ὑγρᾶς ἀναθυμιάσεως αὐγάς...; II, 20, 16 'Ηράκλειτος καὶ 'Εκαταῖος ἄναμμα νοερὸν τὸ ἐκ θαλάττης εἶναι τὸν ἥλιον, from a Stoic source—which state that the heavenly bodies are maintained by the sea-exhalation. A similar confusion is present in Diogenes IX, 9, where fire is increased by the bright exhalation, which is *not* the moist one. This is in fact the Aristotelian theory. Moreover in Diogenes the detailed functioning of the dark exhalation looks very improbable; we are told that day is produced by the flaming of the bright exhalation in the circle of the sun, night by the prevalence

(ἐπικρατήσασαν) of the dark one; so too summer is caused by the increase of warmth from the bright exhalation, winter by the ascendancy of moisture from the dark one. This explanation of day is at variance with the idea that the sun is fed on moisture; for in this case night would be caused by the mere absence of moisture, not by the presence of its contrary, and nothing positive like a dark exhalation is needed to quench the sun. Darkness patently comes when the sun sinks below the horizon; this is quite different from the sky being filled with or covered by a dark vapour. Conceivably the impure region through which the moon moves is the region of the dark vapour; when the sun sets this vapour is able to spread upwards and cause total darkness. Now it is true that darkness and shadow are sometimes indicated in early contexts as something positive and active, as mist or ἀήρ; but Heraclitus was well aware that the sun is the cause of day, and that day and night are really the same (because they are due to the presence or absence of a single cause, and also because they inevitably succeed one another), cf. frr. 99 and 57; he would scarcely have thought that night was due to a negative *and* a quite separate positive cause—the absence of sun, and the presence of a dark exhalation. Cf., however, Burnet 155 and Reinhardt *Parmenides* 182. As for winter, it was known before Heraclitus' time that this was caused by the retreat of the sun to the south, whether in search of fresh moisture to absorb, as one popular account maintained, or blown by winter winds as Herodotus suggested (II, 24); it was obviously *not* due to a persistent masking or diminution of the sun's power by a dark exhalation.

Thus it is intrinsically improbable that Heraclitus believed in two exhalations. That he believed in one, the sea-exhalation, is indicated by the following considerations:

(1) The σκάφαι-theory requires that something shall be burnt in the bowls, and the view reported by Aristotle that the sun (or fire in general, cf. also *de victu* I, 3) feeds on moisture suggests that this substance is the moist exhalation.

(2) The cosmological changes described in fr. 31 include one from sea to fire (the nature of which is not specified if, as I think, πρηστήρ here means 'fire'; see p. 330f.). This is most likely to take place by evaporation, an observable phenomenon and the only conceivable meteorological means of change from sea to the fiery sky. This evaporation is the moist ἀναθυμίασις; it may even have been called

'bright' because it feeds the bright sun. Heraclitus may not have used the term ἀναθυμίασις, but the one which Aristotle used for his moist exhalation, namely, ἀτμίς.

(3) The doxographical tradition is unanimous in attributing the sea-exhalation to Heraclitus, while the land-exhalation is only intermittently assigned to him. Aristotle himself has nothing to say on this point, unless *Probl.* 934b33 is by him or an immediate follower: ...διὸ καί φασί τινες τῶν ἡρακλειτιζόντων ἐκ μὲν τοῦ ποτίμου ξηραινομένου καὶ πηγνυμένου λίθους γίνεσθαι καὶ γῆν, ἐκ δὲ τῆς θαλάττης τὸν ἥλιον ἀναθυμιᾶσθαι. (Whether Heraclitus himself made such a distinction between fresh and sea water must remain a matter of doubt; see also on fr. 31.)

How, then, did the theory of two exhalations come to be attributed to Heraclitus in the doxographical tradition? Simply, it must be assumed, by the confusion of a known Heraclitean single-exhalation cosmological theory with Aristotle's expansion of this into his two-exhalation meteorological system. It is invariably taken for granted that Aristotle took his two-exhalation theory straight from Heraclitus; but if this were the case one might expect some mention of the fact in the *Meteorologica*—not in acknowledgement, of course, but either as a criticism of Heraclitus for not having made proper use of a good idea or in substantiation of Aristotle's own belief by reference to its antiquity. No such mention occurs (Heraclitus being named only as author of fr. 6); on the contrary, there are clear suggestions that Aristotle considered the two-exhalation theory to be his own invention. At *Meteor.* A 13, 349a12 he turns to consider the nature of winds, also of rivers and the sea. But first, he says, the difficulties involved must be discussed, 'for as in other matters, so in these we have received from our predecessors no explanation which might not have been given by anyone': ὥσπερ γὰρ καὶ περὶ ἄλλων, οὕτω καὶ περὶ τούτων οὐθὲν παρειλήφαμεν λεγόμενον τοιοῦτον ὃ μὴ κἂν ὁ τυχὼν εἴπειεν. Aristotle's eventual explanation of winds (which is delayed until B 4, 359b27) is entirely based on the two-exhalation theory: περὶ δὲ πνευμάτων λέγωμεν, λαβόντες ἀρχὴν τὴν εἰρημένην ἡμῖν ἤδη πρότερον. ἔστι γὰρ δύο εἴδη τῆς ἀναθυμιάσεως, ὥς φαμεν, ἡ μὲν ὑγρὰ ἡ δὲ ξηρά. Are we to say that this complicated explanation 'might have been given by anyone'? for if Aristotle really had it from Heraclitus (and at Diog. L. IX, 10 winds are accounted for by the interaction of two exhalations), this is what he implies. No:

Aristotle can only have received simple and popular accounts of winds, and the two-exhalation theory is his own development, subsequently attributed also to Heraclitus. There is further evidence: Aristotle at his first mention of the theory introduces it as something new (this is a probable though not a certain inference), as an improvement on 'what some think': A 4, 341 b 6 θερμαινομένης γὰρ τῆς γῆς ὑπὸ τοῦ ἡλίου τὴν ἀναθυμίασιν ἀναγκαῖον γίνεσθαι μὴ ἁπλῆν, ὥς τινες οἴονται, ἀλλὰ διπλῆν, τὴν μὲν ἀτμιδωδεστέραν τὴν δὲ πνευματωδεστέραν, τὴν μὲν τοῦ ἐν τῇ γῇ καὶ ἐπὶ τῇ γῇ ὑγροῦ ἀτμίδα, τὴν δ' αὐτῆς τῆς γῆς οὔσης ξηρᾶς καπνώδη. The Oxford translator, E. W. Webster, suggested that the view that there is only one exhalation is Plato's at *Timaeus* 56D; this seems improbable, and I would suggest that Aristotle is thinking primarily of Heraclitus. A further indication that no two-exhalation theory existed before Aristotle is given by *Meteor.* B 4, 359 b 29, where Aristotle says that the moist exhalation has a name, ἀτμίς, but the other one has no name but may be called something like 'smoke': καλεῖται δ' ἡ μὲν ἀτμίς, ἡ δὲ τὸ μὲν ὅλον ἀνώνυμος, τῷ δ' ἐπὶ μέρους ἀνάγκη χρωμένους καθόλου προσαγορεύειν αὐτὴν οἷον καπνόν. If Heraclitus had developed an elaborate theory involving two exhalations, he would surely have found a name for both of them; or if he had merely used the description of the dark exhalation given in the Theophrastean account, namely ἡ σκοτεινὴ ἀναθυμίασις or something of that kind, then Aristotle would have mentioned this description. In fact there is no known instance before Aristotle of the compounds ἀναθυμίασις, ἀναθυμιάομαι, etc., and it is rather improbable that Heraclitus used such a term; probably he used ἀτμίς as the name of his single exhalation, and this is what Aristotle had in mind when he wrote that 'the one is called ἀτμίς' (ἀτμίς occurs also in Herodotus IV, 75, 1). One other point is notable: Aristotle pours scorn on the idea that moisture could be drawn up as far as the sun, in his discussion at 355 a 5 of the old theory that the sun is fed by moisture; surely he would have taken the opportunity while on this subject to mention this as a main defect of Heraclitus' two-exhalation theory, if he held such a theory, namely, that *neither* exhalation could be drawn up higher than the sublunary region. Aristotle himself believed that the exhalations operated in this region only, and were connected solely with meteorological events (which by his time had been distinguished from astronomical ones); this would have been a vital

difference from Heraclitus' partly astronomical theory, and one which would have merited the most careful emphasis.

If with these doubts in mind we re-examine the doxographical evidence two further anomalies are revealed:

(*a*) At the end of the description of 'the way up' (probably falsely so called, and falsely interpreted as cosmogonical) at Diog. L. IX, 9 *init.* comes the clause σχεδὸν πάντα ἐπὶ τὴν ἀναθυμίασιν ἀνάγων τὴν ἀπὸ τῆς θαλάττης. This shows clearly that in Heraclitus' account of cosmology, as seen and misinterpreted by Theophrastus, the exhalation from the sea played a predominant part; yet had it been balanced by an opposite exhalation it should have had no predominance. Here we should consider Aristotle *de an.* A 2, 405 a 25, καὶ Ἡράκλειτος δὲ τὴν ἀρχὴν εἶναί φησι ψυχήν, εἴπερ τὴν ἀναθυμίασιν ἐξ ἧς τἆλλα συνίστησιν. This occurs in a context in which Aristotle is anxious to find a common term for soul and ἀρχή (see Cherniss 298 n. 31); by ἀναθυμίασις here he means a kind of fire, but has deliberately chosen a vague term for it; he partly explains why at *Meteor.* A 4, 341 b 14ff. Yet this is simply Aristotle using his own term for an elusive concept—he does not mean to imply that this 'exhalation' has much to do with the moist evaporation from the sea which Theophrastus saw to be a conspicuous factor in Heraclitus' cosmology. In any event it is again significant that only one exhalation is implied; or rather Aristotle would hardly have used the expression τὴν ἀναθυμίασιν to apply to fire if Heraclitus had employed the same expression to describe something which quenched and was opposed to fire.

(*b*) In the Diogenes account rain and wind are explained as being due to the interaction of two exhalations. This is mentioned very summarily; the doxographical accounts contained no details about Heraclitus' views on the causes of such phenomena, even though Theophrastus considered meteorological questions to form a standard part of any Presocratic system, and we may doubt whether Heraclitus was strongly interested in such details. Aëtius, III, 3, 9, attributes to him explanations of thunder, lightning and electrical storms, but with the exception of the account of lightning as occurring κατὰ τὰς τῶν ἀναθυμιωμένων ἐξάψεις standard reasons are given which have no relevance to exhalations; the account of lightning, however, looks as though it is based on the idea of a dry, combustible exhalation as in Aristotle (p. 271).

It may therefore be concluded that Heraclitus postulated only one kind of exhalation, the evaporation from the sea, or possibly from water in general.[1] This evaporation is drawn up and kindled in the bowls of the sun and moon. Aristotle criticized those who believed the sun to be nourished by moisture for neglecting the stars, *Meteor.* B 2, 355a18 ἄτοπον δὲ καὶ τὸ μόνον φροντίσαι τοῦ ἡλίου, τῶν δ' ἄλλων ἄστρων παριδεῖν αὐτοὺς τὴν σωτηρίαν, τοσούτων καὶ τὸ πλῆθος καὶ τὸ μέγεθος ὄντων. This may refer to Heraclitus, though in the Theophrastean account the stars were evidently described as bowls, as well as the sun and moon (Diog. L. IX, 9; Aëtius II, 28, 6). Perhaps this was simply an extension by Theophrastus, and Heraclitus did not bother to specify the fixed stars (which he would not assume, as Aristotle did, to be of any considerable size). Possibly Aristotle was thinking of some other exponent of this general theory, unknown to us.

The operation of the σκάφαι in Heraclitus must remain a matter for speculation. Diogenes tells us that eclipses, and the phases of the moon, were due to the total or partial turning of the bowl, so that its open side in which the fire was gathered was turned away from the earth. This does *not* 'save the appearances': the turning of a circular bowl (and circular they must be assumed to be, quite apart from Diogenes' affirmative evidence) makes its open side appear more and more *elliptical*, but never crescent-shaped as is the partially eclipsed sun or moon, or the moon when not full. However, exact correspondence of theory with phenomena is not a characteristic of early Greek science. The bowls were somehow carried across the sky from east to west, and sank below the level of the earth's flat surface; this, in the case of the sun, was the reason for night. Did the bowls then disappear or disintegrate?—we may complain with Theophrastus that Heraclitus left no clue to their composition. Or did they transform themselves into the golden cup

[1] It was Cherniss, as far as I know, who first expressed doubt over the ascription of two exhalations to Heraclitus, in *AJP* 56 (1935) 415 f.: there, in a comment on fr. 76D, he briefly noted that the change of earth into fire implied by Maximus is one which 'Aristotle explicitly denies to *all* Presocratics. (This previously unnoticed fact incidentally casts suspicion upon the generally accepted doxographical accounts of a double ἀναθυμίασις in Heraclitus.)' Cherniss's reason here is not perhaps a strong one: fr. 76 is suspect in any case, and an earthy exhalation does not necessarily imply a change from earth to fire, for that exhalation would suppress, but not turn into, fire.

of legend (though this referred strictly only to the sun), and sail round the stream of Okeanos, past the northern boundaries of the world, to rise again in the east, where fire was kindled in them as soon as they rose above the horizon? If this were the case one might argue that the sun would not be entirely new every day, after all, for the σκάφαι would remain unchanged. This would be too minute an objection; the visible part of the sun, the fire which we see and feel, would be renewed on each occasion of the sun's rising, and the state of the sun would be that described in Horace *carm. saec.* 10, 'Sol...aliusque et idem nasceris'. But are we in this case to suppose that the bowls of the heavenly bodies are filled with moisture at dawn, and consume this portion of nourishment during their journey across the sky? and is the portion exhausted (cf. Lucretius V, 652, of the sun: 'suos efflavit languidus ignes') at the very moment when they sink below the horizon? And what of the exhalation from the sea—surely this must be dispersed throughout the whole οὐρανός, or at any rate not concentrated in the east or at a particular point of the earth's rim?

In view of the last consideration it seems more consistent to suppose that the sun is continually refreshed with moisture during its passage. There is, however, some evidence that *Xenophanes* thought of it as a concentration of fiery particles from a moist exhalation: Aëtius II, 20, 3 Ξενοφάνης ἐκ νεφῶν πεπυρωμένων εἶναι τὸν ἥλιον. Θεόφραστος ἐν τοῖς Φυσικοῖς γέγραφεν ἐκ πυριδίων μὲν τῶν συναθροιζομένων ἐκ τῆς ὑγρᾶς ἀναθυμιάσεως, συναθροιζόντων δὲ τὸν ἥλιον. The first sentence is perhaps from Posidonius (so Diels in DK); it is repeated and expanded at Aëtius II, 13, 14, Ξενοφάνης ἐκ νεφῶν μὲν πεπυρωμένων [sc. τοὺς ἀστέρας γίνεσθαι]. σβεννυμένους δὲ καθ' ἑκάστην ἡμέραν ἀναζωπυρεῖν νύκτωρ καθάπερ τοὺς ἄνθρακας· τὰς γὰρ ἀνατολὰς καὶ τὰς δύσεις ἐξάψεις εἶναι καὶ σβέσεις. The assertion attributed to Theophrastus in the former passage is not necessarily inconsistent with the rest (though, isolated and obviously added as it is, it might have been displaced from Theophrastus' description of Heraclitus). The heavenly bodies are concentrations of fire derived from the moist exhalation; they resemble fiery clouds; they are kindled on rising, extinguished on setting, like embers which may die down and then be made to glow once again. Apart from the absence of the σκάφαι this is very like what Heraclitus may have meant; the simile of the embers suggests that something

persists during the period of extinction. If anything, these passages suggest an instantaneous kindling in the east, the effect of which lasts all day (or all night, in the case of the moon and stars); so, too, in Lucretius v, 660ff., a passage which does not specify Xenophanes but merely records an evidently well-known belief that a concentration of fire takes place in the east at dawn—'(semina...ardoris)... quae faciunt solis nova semper lumina gigni' (662); cf. Diodorus XVII, 7, 5–7. Diels, *SB Ber* (1920) 2ff., accepted the Lucretius passage as a reference to Xenophanes, and believed that Heraclitus was partially dependent on him, in fr. 6 at least, for his view of the heavenly bodies: so Gigon 84. Both scholars thought that Xenophanes' explanation of the sun in unadulterated material terms was intended as an attack on the popular belief in the sun's divinity (cf., for example, Plato *Apology* 26D), and that Heraclitus may have had the same motive. In addition, Gigon sees in fr. 6 a deliberately naïve empiricism which was intended to rebuke or offset the dogmatism of the Milesians. This interpretation certainly cannot be dismissed; it seems to express one of the fundamental tendencies of Heraclitus' astronomy as represented by the fragments of this group (cf. especially fr. 3), and one which is by no means at variance with his intolerance of other scientists and sages and his contempt for πολυμαθίη (fr. 40). Yet if Diogenes' account of the σκάφαι theory is correct Heraclitus seems to have exceeded the bounds of 'naïve empiricism'. However, if all he did was to connect his observation of evaporation as one of the transformations of matter with a traditional view of the sun sailing round Okeanos in a bowl, and to modify this last belief by suggesting that the sun *was* a bowl (instead of, for example, Helios and his chariot) even in its course through the sky, then he might have supposed himself to be far less dogmatic than Anaximander, for example, with his elaborate postulate of celestial rings. On the whole it seems that although Heraclitus intended some criticism of his predecessors, this was not one of the main motives of his astronomical theories; these are usually restrained and based upon common sense (as, for example, in his explanation of the variation in brightness between sun moon and stars, at Diog. L. IX, 10), but in the σκάφαι theory he seems to have given way to the convenience of a traditional explanation which appeared to combine successfully with his exhalation theory. One thing is certain: his account of cosmological changes in so far as they affect

men's immediate environment on earth was neither naïve nor casual; it was empirical in the best sense, being based upon an intelligent observation of natural processes and of the regularity which underlies them. The exact constitution of the heavenly bodies is not strictly relevant to this more immediate problem, nor, of course, is it determinable by observation; which is perhaps why he may have given no detailed description of the σκάφαι hypothesis.

Heraclitus' assertion that the sun is new every day appears, then, to have been immediately preceded or followed by a reference to the extinguishing and kindling of the sun's fire. This in its turn must have been connected with the theory preserved by Diogenes from Theophrastus that the heavenly bodies are mobile bowls filled, during their journey across the sky, with fire. This fire is maintained by a moist exhalation or evaporation from the sea, either continuously or by a recharging of the bowls with moisture at the start of each journey. Evaporation from the sea is one of those balanced cosmological processes which are an essential factor of our differentiated world; the greater part of this evaporated moisture is doubtless restored in the form of rain (rather than by the extinction of the heavenly bodies in the western ocean as Zeller, ZN 859 n. 1, suggested). Heraclitus' detailed astronomy, such as it was, is not completely interrelated with the theory of natural exchanges, though the sun too (see fr. 94) has to maintain regularity.[1] The astronomy was probably developed some way beyond the needs of the main cosmological theory, beyond too the limits of Gigon's anti-dogmatic empiricism; nevertheless, it probably remained of subordinate importance—a state of affairs which Theophrastus would naturally do his best to remedy. When all is said, we still do not know the exact purpose of the declaration that the sun is new every day; but the number of possible purposes has been substantially limited.[2]

[1] Reinhardt, *Parmenides* 177, suggested that the regularity of the sun is implied in this fr. 6: the fire in the bowls burns for a certain time and no longer. The main emphasis, however, seems to fall naturally on νέος rather than on ἐφ' ἡμέρῃ. His comparison with one version of fr. 106D (see under fr. 57), 'unus dies par omni est', shows that he misunderstood the purport of that fragment.

[2] R. Walzer now kindly draws my attention to an Arabic scholion on *An. Post.* B 7, 93 b 5: 'It may be that he follows in this the view of Heraclitus that the stars cease to exist when they set.' See Walzer, *Oriens* 6 (1953) 133.

3

(om. B)

Aëtius II, 21, 4 (Περὶ μεγέθους ἡλίου) Ἡράκλειτος **εὖρος ποδὸς ἀνθρωπείου.**

(On the size of the sun) Heraclitus [sc. says that it is] The width of a human foot.

The rhythm of these three words is dactylic, and it is possible that they are not a doxographical paraphrase (the doxographical way of expressing this idea, following Aristotle, being represented rather by Theodoretus IV, 22, Ἡράκλειτος δὲ ποδιαῖον), but a quotation from some metrical version of Heraclitus, conceivably that of the iambographer Scythinus (who could, like Archilochus, have written also in hexameters) mentioned by Hieronymus according to Diog. L. IX, 16: see also under fr. 100. The words may not be Heraclitus' own (though not on account of any dogma like that propounded by Diels on fr. 137, 'Aber Zitate Heraklits gibt es in den Placita nicht'), but they must be accepted as expressing a genuine opinion of his; a similar opinion is attributed to him in what appears to be an appendage to the summary account at Diog. L. IX, 7, εἴρηκε δὲ καὶ περὶ τῶν ἐν κόσμῳ συνισταμένων πάντων παθῶν, ὅτι τε ὁ ἥλιος ἐστὶ τὸ μέγεθος οἷος φαίνεται (frr. 45, 46D follow). The connexion of this view with Heraclitus is known by the author of the ninth pseudo-Heraclitean letter (line 23 Bernays): θεοῖς συνοικῶν δι' ἀρετῆς οἶδα ἥλιον ὁπόσος ἐστί.

The contrast between the real and the apparent size of the sun became something of a commonplace; so, for example, Aristotle *de an.* Γ 3, 428b2 φαίνεται δὲ καὶ ψευδῆ περὶ ὧν ἅμα ὑπόληψιν ἀληθῆ ἔχει, οἷον φαίνεται μὲν ὁ ἥλιος ποδιαῖος, πεπίστευται δ' εἶναι μείζω τῆς οἰκουμένης. Cf. also *Meteor.* A 3, 339b34; *de somn.* 458b28, 460b18. Epicurus then propagated the opinion that the sun actually was about as big as it seemed, *Ep. ad Pyth.* 91 τὸ δὲ μέγεθος ἡλίου τε καὶ τῶν λοιπῶν ἄστρων κατὰ μὲν τὸ πρὸς ἡμᾶς τηλικοῦτόν ἐστιν ἡλίκον φαίνεται. . .κατὰ δὲ τὸ καθ' αὑτὸ ἤτοι μεῖζον τοῦ ὁρωμένου ἢ μικρῷ ἔλαττον ἢ τηλικοῦτον. The comparison with

the human foot does not occur here, but that Epicurus made it is suggested by Cicero *de fin.* I, 6, 20; *Acad.* II, 26, 82.

Heraclitus may or may not have been the first to enunciate this commonplace; the question is why he enunciated it. He cannot have seriously thought that the sun is a foot wide; apart from anything else this does not fit in with the σκάφαι theory (pp. 269ff.); Gigon 82 pointed out that even the golden bowl of myth must have been more than this size. Heraclitus was no fool; he did not reject the evidence of the senses (fr. 55), but considered that it had to be correctly interpreted by the ψυχή before it had any value (fr. 107). The passage of Diogenes quoted above seems intended to show that Heraclitus rejected sense-evidence; but it is extremely unlikely that he would have stated without qualification that 'seeing is being deceived' (fr. 46D), and the whole passage looks like the result of Sceptic interference with the tradition. Various more attractive interpretations have been proposed:

(1) Deichgräber, *Philologus* 93 (1938–9) 25f., suggested that the saying was meant to exemplify the subjectivity and fallibility of human judgement, in support of generalizations like fr. 78 (ἦθος γὰρ ἀνθρώπειον μὲν οὐκ ἔχει γνώμας, θεῖον δὲ ἔχει) and fr. 82–3.—But Heraclitus undoubtedly thought that *some* people, those who comprehended the Logos, attained to a degree of wisdom; and of those that did not, not all would be so naïve as to make this particular mistake.

(2) Reinhardt, *Parmenides* 237, believed this fragment to be an example of the coincidence of opposites: the sun must be very large to be the cause of day (fr. 99), yet it is also, empirically speaking, very small; in this case large and small coincide.—I agree with Gigon 82 that this interpretation is over-complicated: the example of coincidence is neither a good nor a typical one, contrasting as it does real with apparent characteristics.

(3) H. Fränkel, *AJP* 59 (1938) 327, suggested somewhat similarly that the fragment was originally connected with frr. 99 and 45 to form a proportional assertion: the sun, which is by far the most important heavenly body, is only a foot wide; but the boundaries of the soul are infinite.—There is no real evidence for such a connexion; an assertion like this, based upon an obvious falsehood, could carry little persuasion; the proportional method of exposition is certainly used by Heraclitus, but Fränkel is wrong in seeing it everywhere.

(4) Gigon in his useful discussion, p. 81f., makes the most plausible suggestion so far: Heraclitus is here rebutting (following perhaps Xenophanes) the extremely dogmatic astronomy of the Milesians, by advancing an exaggeratedly empirical view as having equal or greater validity. This was, in part, Epicurus' intention also. Heraclitus did not believe this statement about the sun to contain the whole truth, but at least it contained as much truth as other theories. —The same objection may be made against this interpretation as against Gigon's similar explanation of fr. 6: Heraclitus may have been to some extent an anti-dogmatist in astronomy, but he cannot have been an extreme one, since his own account of the heavenly bodies is far from empirical. Gigon undoubtedly overestimated the influence of Xenophanes upon Heraclitus, though by emphasizing that there was some influence he performed a useful service. A further point is that the width of the sun was not a particularly appropriate subject for an anti-dogmatist attack; the only known Milesian opinion on this subject is the not unreasonable one ascribed to Anaximander by Aëtius II, 21, 1, that the sun is about the size of the earth (though very different, of course, in constitution).

The lack of any indication of the original context of the fragment makes any attempt at a definite interpretation hazardous and potentially misleading. But it is probable that Heraclitus did not seriously consider the sun to be the width of a human foot, and in this case he must have been referring to its apparent width. It will be seen in the discussion of fr. 120 that he was on occasion content to make simple observations about the sun, especially, which out of context appear too obvious to be worth recording. Perhaps this is such an observation. Doubtless it was made for a purpose, and conceivably (2) or (4) above reproduce a part at least of this. Conceivably, too, ἀνθρωπείου is emphatic, and he is relating the apparent size of the sun to the size of a mere part of a man, with the implication that appearances are deceptive, that one has to look below the surface, that 'a thing's constitution is accustomed to hide itself' (fr. 123). Perhaps again he is implicitly criticizing not so much the extravagance of his predecessors in the scientific field as the popular reverence accorded to the sun as a divinity; for this kind of criticism see under fr. 16. If that fragment is rightly interpreted below, a conjunction of sense with the present one is possible: the sun is supposed to see and hear all (but he sets at night, and cannot

be active then); he is supposed to be a powerful divinity (but does not appear to be one, at any rate; he appears to be the size of a man's foot). This again is quite conjectural; fragments whose meaning is as uncertain as that of fr. 3 certainly cannot be used as a basis for further hypotheses, especially when the sole ascription is in so fallible a source as Aëtius.

94

(29B)

Plutarch *de exil.* 11, 604A καίτοι τῶν πλανητῶν ἕκαστος ἐν μιᾷ σφαίρᾳ καθάπερ ἐν νήσῳ περιπολῶν διαφυλάττει τὴν τάξιν. **Ἥλιος** γὰρ **οὐχ ὑπερβήσεται μέτρα,** φησὶν ὁ Ἡράκλειτος· **εἰ δὲ μή, Ἐρινύες μιν Δίκης ἐπίκουροι ἐξευρήσουσιν.**

And yet each of the planets revolves in one orbit as though in an island, and preserves its regularity: for Sun will not overstep his measures, *says Heraclitus*; if he does, the Erinyes, the minions of Justice, will find him out.

The form of this fragment is clearly original. The personified Dike occurs again in fr. 28, as a punisher this time of human wrongdoers; and possibly in fr. 23. ἐξευρίσκειν occurs in frr. 18 and 45, but without the idea implicit here of finding out and then punishing; though punishment is perhaps implied from Δίκη rather than the verb. εἰ δὲ μή in place of εἰ δέ, after a negative sentence, is a not uncommon construction, cf. Kühner-Gerth II, 486 §6b. The last sentence of the fragment is almost exactly reproduced in a saying attributed to Pythagoras by Hippolytus, *Ref.* VI, 26, 1 (p. 153 Wendland) ἐκ τῆς ἰδίης ἐὰν ἀποδημῇς μὴ ἐπιστρέφου· εἰ δὲ μή, Ἐριννύες Δίκης ἐπίκουροί σε μετελεύσονται. A shortened version of this occurs among the Σύμβολα Πυθαγόρεια (practical injunctions based upon taboo and sympathetic magic, probably developed especially by the Acousmatic sect of Pythagoreans) recorded by Iamblichus, *Protr.* 21 (DK I, p. 466, 25): ἀποδημῶν τῆς οἰκείας μὴ ἐπιστρέφου, Ἐρινύες γὰρ μετέρχονται [οἰκίας codd., em. Bywater sec. Hippol.]. Bywater's emendation seems to be fair: ἡ ἰδίη in Hippolytus must mean 'one's own country' or 'one's own village', understanding γῆς or κώμης, but is not recorded in LSJ before *c.* 2 B.C. ἡ οἰκηίη, on the other hand, meaning 'one's own country', occurs at Hdt. I, 64, 3: if οἰκηίης is substituted for ἰδίης in the Hippolytus version the original form of the saying will perhaps have been restored (ἀποδημεῖν οἰκίας occurs at Plato *Laws* 954B, meaning simply 'to be away from home': Iamblichus' reading cannot therefore be absolutely discounted,

though I think the other much the more probable). The resulting sentiment is strange: 'If you are away from your own country, do not turn about (*or* pay regard to it); otherwise the Erinyes, minions of Justice, will come after you.' This is different in character from the other Symbola we know of, which are more concrete and specific; moreover, it is an unaccountable piece of advice. There is no reason, however, to doubt its authenticity; like its companions it was probably not of very early date, as it stands. The exact significance of the first part is not fully relevant here; the second part, however, certainly reproduces Heraclitus. Does this suggest that Heraclitus simply took over and adapted a well-known phrase, which was also adapted by the Pythagoreans? or that Heraclitus' sayings were so well known in southern Italy that they themselves were naturally adapted to other purposes? No certain answer can be given: but I would tentatively suggest that at any rate the words Ἐρινύες Δίκης ἐπίκουροι were not invented by Heraclitus but quoted by him from some well-known source unknown to us. Compare the grandiloquent language used by him in fr. 120, also in connexion with the sun and its limits. The author of the ninth Letter knew the phrase as Heraclitean: πολλαὶ Δίκης Ἐρινύες, ἁμαρτημάτων φύλακες.

The precise interpretation of the fragment depends upon whether μέτρα is taken spatially, or temporally, or generally to include both extent and period. If the reference were exclusively to the limits of the sun's course one might have expected the more precise πείρατα (cf. fr. 45) or οὔρους (cf. fr. 120). There might be another quantitative sense, of size—that is, the sun will not grow too large and hot. This meaning could be excluded by reference to the σκάφη theory: the sun's bowl is presumably of a limited size and not more than a certain amount of fire can burn in it. If temporal, the exceeding of the sun's measures would involve an unnatural length of day, or of summer: both of these anomalies could also be expressed in spatial terms (cf. also Diogenes of Apollonia fr. 3), and it is obviously wrong to try and restrict μέτρα—a word which applies in more than one category—to a narrow sense here. Doubtless Heraclitus is thinking of *any* departure by the sun from its normal behaviour. But the use of the verb ὑπερβήσεται, which is primarily spatial though frequently used metaphorically, suggests that Heraclitus' first thought is of spatial measures of the sun's course through the sky, as in fr. 120. Plutarch in a second, freer quotation certainly

gave this sense to μέτρα: *de Is.* 48, 370D καὶ τὸν μὲν Ὅμηρον, εὐχόμενον ἔκ τε θεῶν ἔριν ἔκ τ' ἀνθρώπων ἀπολέσθαι, λανθάνειν, φησί [sc. Ἡράκλειτος], τῇ πάντων γενέσει καταρώμενον ἐκ μάχης καὶ ἀντιπαθείας τὴν γένεσιν ἐχόντων, ἥλιον δὲ μὴ ὑπερβήσεσθαι τοὺς προσήκοντας ὅρους· εἰ δὲ μή, †γλώττας† μιν Δίκης ἐπικούρους ἐξευρήσειν. Probably the best emendation of the impossible γλώττας is Schuster's Κλῶθας: though it is strange that Plutarch should have remembered and reproduced a comparatively obscure variant (which, in spite of the appropriateness of the Κλῶθες as being spinners of fate and death, has little claim to be the original form in view of the agreement of the Pythagorean version on Ἐρινύες: though Κλῶθες would fit into a dactylic form, e.g. Κλῶθές σε Δίκης ἐπίκουροι). Diels, *Herakleitos*[2] ad fr., suggested that γλώττας was introduced from a marginal comment on the style of the fragment(!).

Both Reinhardt (*Parmenides* 177; *Hermes* 77 (1942) 14) and Gigon (86f.) take μέτρα here in a temporal sense. Reinhardt takes the fragment closely with fr. 6 (the sun is new every day), and finds in the regularity thus announced an argument against ἐκπύρωσις; Diels, *loc. cit.*, on the other hand, finds in it a presage of an ἐκπύρωσις. I do not believe that Heraclitus ever conceived of a total consumption by fire, but I think that Reinhardt here is almost as wrong as Diels: neither of them distinguishes properly between the *sun* in this fragment and the cosmic *fire* which must be involved in any ἐκπύρωσις—the sun may be the chief visible representative of that fire, but it certainly cannot be identified with it in behaviour. Gigon saw this well enough, even though he is a keen believer in an ἐκπύρωσις in Heraclitus. He, however, made an analogous error in taking μέτρα here as completely parallel in sense with μέτρα in fr. 30: the latter he took (wrongly, I think) to be temporal, therefore the former are also temporal. It is quite fantastic to think that Heraclitus must always have used μέτρα in the same sense (it was probably Burnet, p. 161, who canonized this error), and quite obvious from a glance at the two fragments that the whole application of the word, quite apart from spatial or periodic content, is different. Gigon goes on to suggest that the punishment meted out by the Erinyes will be eclipse, and that this fragment is a serious approach to that standard astronomical problem. This is an ingenious suggestion: it is, indeed, possible that Heraclitus had eclipse in mind as the revenge which the Erinyes would take (since the subjection of the sun for a period

would restore the normal measure), but hardly likely that this was intended to be an *explanation* of eclipses. These were caused, according to Theophrastus, by the turning of the bowls—this is Heraclitus' scientific explanation, and it seems doubtful whether this fragment is intended to be an explanation of cause on the same level. It states clearly enough that the sun will *not* overstep his measures, i.e. that this is not a natural event at all. If in spite of this Heraclitus did have in mind actual meteorological or astronomical phenomena, then he probably meant simply that if in any way the sun exceeds his normal course and behaviour this will be compensated for by a corresponding withdrawal: for example, if he appears to come too close and stay too long in summer (i.e. in a long, hot, dry summer), he will be driven farther away and for a longer period in the following winter (which will be cold, wet, and longer than usual, thus restoring the balance). An eclipse would never last for long enough, or recur frequently enough, to redress the balance of, say, an exceptionally hot summer; nor, it may be added, were there any observable excesses which immediately preceded eclipses.

Dike represents the regular course of events, normality, the organization which is one of the notable features of this κόσμος and which indeed is implicit in all uses of this word. For the application of Dike, in origin a social concept, to the world-order, cf. Anaximander fr. 1. The Erinyes avenge any infringement of the natural order of things (and so homicide in human society): as Jaeger well commented (*Theology* 229 n. 31, cf. *ibid.* 116; so also Nestle, ZN 838 n. 1), 'the Erinyes avenge every violation of what we should call the natural laws of life'; he then cited the notable instance at *Il.* XIX, 418, where they put a stop to the anti-natural human utterance of Achilles' horse Xanthos. The regularity of the world as a whole, as opposed to its human inhabitants, is such that the Erinyes have little occasion to interfere: Deichgräber, *Die Antike* 15 (1939) 120, has pointed out how rare in myth are large-scale natural anomalies; the only case of interference with the sun in the *Iliad* is at *Il.* XVIII, 239ff. (cf. *Od.* XXIII, 241 ff.), where in rare conditions, with the sun ἀέκοντα νέεσθαι, Hera brings on nightfall before its normal time—a device so useful to the gods that one might have expected it to be employed more often. Heraclitus in this fragment is simply stressing this accepted element of regularity in the sun's behaviour: the sun has μέτρα to which he adheres. So also, we shall discover, all things

in the natural world have μέτρα (perhaps not of precisely the same kind in every case) which are scrupulously preserved by Δίκη, ἀνάγκη, χρεών; if these measures were abandoned then the world as we know it could not continue to exist.[1]

[1] In suggesting that the regularity of the sun is intended by Heraclitus to exemplify or even symbolize the regularity of the natural world as a whole I agree with Nestle, ZN 838 n. 1, in his summing-up of this fragment: 'Es soll wohl auch hier nichts weiter als die unverbrüchliche Gesetzmässigkeit des Weltlaufs zum Ausdruck gebracht werden.'

120

(30B)

Strabo I, 3 Cas. βέλτιον δ' Ἡράκλειτος καὶ ὁμηρικωτέρως ὁμοίως ἀντὶ τοῦ ἀρκτικοῦ τὴν ἄρκτον ὀνομάζων· **ἠοῦς καὶ ἑσπέρας τέρματα ἡ ἄρκτος καὶ ἀντίον τῆς ἄρκτου οὖρος αἰθρίου Διός.** ὁ γὰρ ἀρκτικός ἐστι δύσεως καὶ ἀνατολῆς ὅρος, οὐχ ἡ ἄρκτος.

Heraclitus is better and more Homeric when he likewise uses the name 'the Bear' for 'the Arctic circle': The limits of dawn and evening are the Bear and, opposite the Bear, the boundary of bright Zeus. *For the Arctic circle, and not the Bear, is the northern boundary of rising and setting.*

Strabo does not help at all in the interpretation of this fragment, since he uncritically accepts anything which appears to support his own pedantic and anachronistic argument that Homer meant 'the Arctic circle' when he said that Arctos οἴη δ' ἄμμορός ἐστι λοετρῶν Ὠκεανοῖο (*Il.* XVIII, 489; *Od.* V, 275), because nothing within the celestial Arctic circle appears to rise and set. He takes Heraclitus to be making the same point, and thinks that by 'the limits of dawn and evening' he is referring to that part of the sky (i.e. between the Arctic and Antarctic circles) in which heavenly bodies rise and set. Thus Strabo implies that by οὖρος αἰθρίου Διός Heraclitus means to designate the Antarctic circle. We shall see that this cannot be the case; but meanwhile there is nothing to suggest that Strabo misquoted Heraclitus, even if he misinterpreted him. Reinhardt prints a colon after τέρματα, but this is a matter of choice.

There can be little doubt that what are in question here are what we should call the points of the compass; dawn represents the east, evening the west, and the Bear the north, often enough in Greek literature. The only other possible interpretation would be that followed by Strabo; and this is out of the question because there is no evidence whatsoever that Heraclitus believed in a spherical earth (as perhaps some Pythagoreans did, but later) and a south pole and Antarctic circle; and a great deal of probability that he did not. The Ionians regularly thought of the earth as flat; Xenophanes

certainly did, and Heraclitus may have been influenced by him in cosmological details. The doxographical evidence assembled under fr. 6 shows that the σκάφαι were quenched in the west, which suggests if anything that Heraclitus shared the common view of Okeanos flowing round the rim of the earth, and (cf. Anaximenes) of the heavenly bodies travelling *round* the earth to the north (slightly below its rim, perhaps) and not underneath it. Burnet, 135 n. 5, took the fragment as 'a protest against the Pythagorean theory of a southern hemisphere'; no one else supposes that any such theory was formed by Pythagoreans as early as this, or that there is any reason to imagine that Heraclitus had heard of it.

οὖρος αἰθρίου Διός, then, probably represents the south. Gigon 84 calls it 'an astronomical name unknown to us', and does not attempt to elucidate it; in this he is unduly defeatist. It may, indeed, be almost a technical term, in the sense that it was a quotation well known to Heraclitus' contemporaries; like Ἐρινύες Δίκης ἐπίκουροι it shows sign of a metrical origin, only much more clearly, and this time of an iambic or trochaic original (so Heidel, *Proc. Amer. Acad. of Arts* 48 (1913) 712, who, however, regards the whole fragment as metrical in origin). It stands out as an essentially poetical phrase in a prosaic sentence (note also that Heraclitus uses a different form, Ζηνός, in fr. 32—though this may be for a special purpose); there is no question either here or in fr. 94 of a metrical version of Heraclitus like that of Scythinus, but rather of the use by Heraclitus himself of poetical phrases; cf. also fr. 5. Various interpretations have been offered of this phrase, all turning on the meaning of οὖρος. This could mean one of four things in Heraclitus: (i) favourable wind; (ii) watcher; (iii) mountain (οὖρος being an epic, though not Ionic, form of ὄρος—it is a hyperionism in Herodotus mss.; but Heraclitus undoubtedly employed some epic words, and not only in formal quotations); (iv) boundary (οὖρος being regular Ionic for ὅρος).—(i) was adopted by Reinhardt, *Parmenides* 182 n. 1, and Heidel *loc. cit.*: but οὖρος does not necessarily imply a *south* wind, only a favourable wind in general[1] (so, for example, at *Od.* V, 176; at *Od.* XV, 297 the favourable wind happens to be south, for Telemachus is returning from Pylos to Ithaca). Admittedly the idea of 'south' is implicit in 'bright Zeus' (see below), and directions are

[1] Heidel, *CP* 5 (1910) 247, had tried to evade this difficulty by translating 'the wind of Heaven opposite the Bear': this is impossible.

sometimes expressed by names of winds, as at, for example, Hdt. I, 148; II, 8; III, 115. In the second of these a wind-direction is mixed with celestial directions, ἀπ' ἄρκτου πρὸς μεσαμβρίης τε καὶ νότου, as would be the case here: some winds, like νότος, became synonymous with points of the compass, but this can hardly be the case with a periphrasis like 'the wind of bright Zeus': and why mention the wind when 'bright Zeus' gives the necessary direction? (ii) is obviously unsuitable. (iii) was adopted by Diels in *Herakleitos*², 45, and early editions of *VS*: he maintained that the 'hill of bright Zeus' was the Thessalian Olympus, which lay in the same meridian as Delphi, the acknowledged centre of the earth; in this way the Bear (the middle of the northern sky), Olympus (the middle of northern Greece), and Delphi (the middle of the world) are all in line, and give the main north-south division between the eastern and western regions. This is ingenious, but must be rejected because (*a*) αἰθρίου is not adequately accounted for (it is not a normal *decorative* epithet), and (*b*) Olympus cannot properly be described as *opposite* the Bear, especially if it is thought of as an intermediate point between the Bear and Delphi. Something definitely southern is required. (iv) was long neglected, but finally was adopted by Burnet, and also supported by Kranz in *SB Ber* (1916), 1161 n., and DK. I believe it to be the obviously correct interpretation—not because, as Burnet strangely held, 'it is clear that οὖρος = τέρματα', but because this gives the clearest denomination of the south. αἴθριος Ζεύς means either 'the bright blue sky' (Zeller and Burnet), and especially the brightest part of the sky, which lies in the south and not the north; or the sun. This last identification is advanced by Kranz (who, in addition, takes οὖρος in its most concrete sense as 'boundary-stone', cf. *Il.* XXI, 405)[1], who compares *de victu* I, 5 πάντα ταὐτὰ καὶ οὐ τὰ αὐτά· φάος Ζηνί κτλ.; John Lydus *de mens.* IV, 3 (DK 7A9) Ἥλιος αὐτὸς [sc. Ζεύς] κατὰ Φερεκύδην; and Ζεὺς ἀργής in Empedocles fr. 6, 2 as one of the four ῥιζώματα, presumably fire. Of these the first two are dubious as evidence, and only the

[1] Although as a general principle it is wrong to overlook the original particularized and concrete meanings of words in dealing with the archaic prose-style, it seems unlikely here that Heraclitus thought particularly of a concrete limit. Reinhardt was probably right in saying that Ἄρκτος is the northern region of heaven, and its opposite is presumably a region rather than a point.

second equates Zeus with the sun. The bright sky is the original domain of the Indo-European Zeus, and the sun is the cause of the sky's brightness. But to say that Zeus *is* the sun is going very much further, and making an identification which I think would be bizarre to most Greeks. On the other hand, I believe that sun is *implied* in this phrase though not directly named: bright Zeus is the bright part of the sky, and the boundary of bright Zeus is the region where this brightness becomes greatest, namely, where the sun is at its height at noon. This lies to the south; and it is opposite Arctos because it lies on the other side from the point of view of a Greek observer. Burnet, *loc. cit.*, suggested that the boundary was the southern horizon, an attractive idea invalidated by Diels' criticism (*Herakleitos*[2] 45) that the horizon connects, rather than separates, east and west.

At all events it is plain that the phrase has the general meaning 'south'. Now it is obviously true that the limits (or turning-points) of dawn and evening, i.e. the end of morning and beginning of evening, can be regarded as a line drawn from north to south through the position of the observer; such a line would equally separate the region of dawn, i.e. the east, from the region of evening, i.e. the west. It may be that Heraclitus merely wished to state this fact—the fragment may be no more than a recapitulation of the points of the compass; as Zeller, ZN 845, put it: 'Am Enden wollen die Worte, so bombastisch sie lauten, doch nur besagen, zwischen Ost und West liege Nord und Süd...'. Another astronomical statement, fr. 3, is perhaps equally devoid of profound content, and such an interpretation cannot be rejected because of an appearance of over-simplicity: many facts needed stating discursively which are now taken for granted. However, it is more likely than not that the saying had a particular application. One possible application is as follows (cf. Reinhardt *loc. cit.*, Heidel *Proc.* 715): Heraclitus might have defined the division of morning and evening (or east and west) as a line between *celestial* north and south because this is a relative and not an absolute meridian; that is, his definition would remain true however far east or west the observer moved. This could be part of a proof that day and night are relative, not absolutely separate entities (but in Heraclitus' sense 'the same': cf. fr. 57), because moving into the region of day does not increase the time of 'dawn', i.e. the period from dawn to noon. Again, however, this explanation

is very complicated: a simpler one, which connects this fragment with an equally well-confirmed opinion of Heraclitus and which would make it complementary to fr. 94, is that it is intended to stress the truth that the delimitation of dawn and evening will always lie between the north and the culmination of the sun's daily journey through the sky; dawn (morning[1]) will not be unduly prolonged at the expense of evening, nor evening at the expense of morning; noon will always come exactly half-way between the two. Kranz in DK adopted an interpretation similar to this, and actually equated the 'boundary of bright Zeus' with the 'measures' which in fr. 94 the sun will not overstep. This is by no means certain: it is possible, for example, that the 'measures' in fr. 94 refer primarily to the sun's seasonal position in the ecliptic, while the 'boundary' in this fragment refers, clearly, to its east-west movement. In this case fr. 120 would add to fr. 94; but whether or not the above restriction of the sense of fr. 94 is justified it is clear that fr. 120 could be similar in intention—a statement, that is, of the *regularity* of the sun's apparent movement, rather than a simple assertion of the basic celestial directions.

[1] Cf. the distinction of ἠώς as 'morning', rather than 'dawn', from μέσον ἦμαρ and δείλη at *Il.* XXI, 111, etc.

100

(34B)

Plutarch *Quaest. Plat.* 8, 1007D ...ὁ χρόνος...κίνησις ἐν τάξει μέτρον ἐχούσῃ καὶ πέρατα καὶ περιόδους· ὧν ὁ ἥλιος ἐπιστάτης ὢν καὶ σκοπὸς[1] ὁρίζειν καὶ βραβεύειν καὶ ἀναδεικνύναι καὶ ἀναφαίνειν μεταβολὰς καὶ **ὥρας αἳ πάντα φέρουσι** καθ' Ἡράκλειτον, οὐδὲ φαύλων οὐδὲ μικρῶν ἀλλὰ τῶν μεγίστων καὶ κυριωτάτων, τῷ ἡγεμόνι καὶ πρώτῳ θεῷ γίγνεται συνεργός.

1 ἐπιταχθεὶς ἐπίσκοπος coni. Reinhardt.

...Time...is movement in an order that has measure and limits and periods. Of these periods the sun is overseer and guardian, for the defining and arbitrating and revealing and illuminating of changes and Seasons which bring all things *as Heraclitus says—not of unimportant and small periods but of the greatest and most influential; and so the sun becomes a fellow-worker with the highest and chief god.*

This is the only passage in which this phrase is attributed to Heraclitus; the limits of the quotation are not specifically marked, but only the words ὥρας αἳ πάντα φέρουσι can be in question. As it stands the fragment is extremely ambiguous in meaning, but presumably the ὧραι are primarily the seasons of the year (rather than, for example, of human life), as in the context in Plutarch. The phrase is clearly marked by dactylic rhythm: cf. frr. 3, 137, 94, 5. This may mean either (i) that it is a deliberate quotation by Heraclitus (as perhaps in the case of Δίκης ἐπίκουροι in fr. 94), or (ii) that it is unconsciously expressed by him in epic form (as perhaps in the case of θεοὺς οὐδ' ἥρωας οἵτινές εἰσι in fr. 5), or (iii) that it is taken not from Heraclitus himself but from a poetic version of him (compare Cleanthes' *Hymn*, which, though not a version of Heraclitus, contains clear reminiscences; frr. 3 and 137D may be derived from such a version). (iii) is possible, even though Plutarch, a good authority, attributes the phrase to Heraclitus himself; (ii) is less likely than (i), since the verse rhythm is too striking to be accidental even in the early days of prose composition. It is a phrase which any poet might have used: cf. *Od.* IX, 131 φέροι δέ κεν

ὥρια πάντα; *h. Herm.* 91 εὖτ' ἂν τάδε πάντα φέρησι. What we are concerned with is why Heraclitus used it. As the seasons are dependent on the position of the sun it has been placed in this group, but this is more or less arbitrary. The mention of the seasons and their products may have formed part of a discussion of the regularity of natural events (of which the sun's regularity in fr. 94 is typical); the seasons and movements of the heavenly bodies are quite naturally cited in most ancient passages where this topic is discussed. Another possibility, supported by Schuhl, *La Formation de la Pensée grecque* 281, is that the Ὧραι are meant: at Hesiod *Theog.* 901 these are Eunomia, Dike and Eirene; Schuhl suggests that φέρουσι here means 'apportion' (cf. τὸ φέρον = 'fate' at Soph. *O.C.* 1693). This interpretation would again connect this fragment with fr. 94, where it is Dike's assistants who see that the sun does not exceed his allotted measures.

Reinhardt has fully discussed the fragment in *Hermes* 77 (1942) 228–35, and has connected it with two other ideas ascribed to Heraclitus in doxographical sources—the idea of a thirty-year generation, and of a 'great year'. (These pieces of doxographical information, together with the account of the σκάφαι-theory discussed under fr. 6, and Sextus' information on the soul, are the only parts of our post-Aristotelian tradition which are of great importance in themselves, since they alone give us information which cannot be more fully derived from the fragments.) Reinhardt's hypothesis, not simple in itself, is rendered more difficult by his extremely complicated exposition: the account given below is largely based on him, though with some simplification and alteration of emphasis.

There is another passage in Plutarch which mentions, without ascription, a phrase very similar to the fragment, soon after two references to Heraclitus. In *de def. oraculorum* c. 11ff. occurs a learned discussion on the interpretation of some lines of Hesiod (fr. 171 Rzach), in which the life-period of the Nymphs is given as ten times that of the phoenix, which is nine times that of the raven, and so on: the crow's lifetime is said to be 'nine generations of men', ἐννέα τοι ζώει γενεὰς λακέρυζα κορώνη | ἀνδρῶν ἡβώντων. Cleombrotus, one of the speakers, says that a γενεά here is only a year; Demetrius objects that this is impossible: whether ἡβώντων or γηρώντων is read in the passage quoted the generation must be

longer; if the former, then it is thirty years as Heraclitus said, and if the latter it is one hundred and eight years (according to a Pythagorean type of calculation). *De def. or.* 11, 415 E ἀλλ' οἱ μὲν "ἡβώντων" ἀναγιγνώσκοντες ἔτη τριάκοντα ποιοῦσι τὴν γενεὰν καθ' Ἡράκλειτον [DK 22 A 19], ἐν ᾧ χρόνῳ γεννῶντα παρέχει τὸν ἐξ αὐτοῦ γεγεννημένον ὁ γεννήσας· οἱ δὲ "γηρώντων" πάλιν κτλ. Demetrius adds that Hesiod means the lifetime of the Nymphs to represent the interval between ἐκπυρώσεις, those periodical world-conflagrations which the Stoics believed in and attributed also to Heraclitus. Cleombrotus rejects this idea and criticizes the Stoic habit of finding their world-conflagration in earlier writers: καὶ ὁ Κλεόμβροτος 'Ακούω ταῦτ', ἔφη, πολλῶν, καὶ ὁρῶ τὴν Στωικὴν ἐκπύρωσιν ὥσπερ τὰ Ἡρακλείτου καὶ τὰ 'Ορφέως ἐπινεμομένην ἔπη οὕτω καὶ τὰ Ἡσιόδου καὶ συνεξάπτουσαν· ἀλλ' οὔτε τοῦ κόσμου τὴν φθορὰν ἀνέχομαι λεγομένην, τά τ' ἀμήχανα ...† [here follows a corrupt and irreparable clause]. οὐκ ἐνιαυτὸς ἀρχὴν ἐν αὑτῷ καὶ τελευτὴν ὁμοῦ τι πάντων ὧν φέρουσιν ὧραι γῆ δὲ φύει περιέχων [περιεχῶς codd., περιεσχηκὼς Schwartz, Sieveking, Reinhardt, περιέχων cett.], οὐδ' ἀνθρώπων ἀπὸ τρόπου, γενεὰ κέκληται;[1] καὶ γὰρ ὑμεῖς ὁμολογεῖτε δήπου τὸν Ἡσίοδον ἀνθρωπίνην ζωὴν τὴν γενεὰν λέγειν.—Demetrius agrees, of course, and Cleombrotus goes on to enunciate a rule that often the standard of measure and the thing measured are called by the same name, therefore γενεά can be used for ἐνιαυτός. The latest Teubner editor, Sieveking, takes

[1] The punctuation and meaning of this sentence are far from certain. For ἀνθρώπων ἀπὸ τρόπου cf. Thuc. I, 76 θαυμαστὸν οὐδὲν οὐδ' ἀπὸ τοῦ ἀνθρωπείου τρόπου: 'absurd', 'contrary to men's ways'. I tentatively take this phrase to be parenthetical, so as to retain the force of its negative: 'Is not the year, which contains in itself...called a "generation"—and not contrary to men's ways?' This would be a forward reference to the τρόπος which is described in the following lines, of using the same name for measure and thing measured: it does not give an entirely satisfactory sense since ἀρχὴν–περιέχων becomes irrelevant. Babbitt, the Loeb translator, made οὐκ–περιέχων a self-contained question, and continued: 'and is it not foreign to men's ways to call it a "generation"?'; this seems to concede too much to Cleombrotus' adversary. R. Flacelière in his edition of this essay, p. 132, takes ἀνθρώπων with γενεά, which gives an adequate sense but is grammatically impossible. No way of translating the text as it stands brings out what should be the point of the derivation of ἐνιαυτός: that it is a complete cycle, just as the human γενεά has just been shown to be, according to Heraclitus' definition; and as such the two might be regarded as interchangeable.

the whole phrase πάντων ὧν φέρουσιν ὧραι γῆ δὲ φύει as a reference to something said by Heraclitus, but the last three words (though, in spite of their abandonment of dactylic rhythm, they *appear* to belong to the quotation here) are not attested for Heraclitus in *Quaest. Plat.* Apart from Plutarch there are two occurrences of the words ὧραι and φέρουσι in Marcus Aurelius: IX, 3 οἷον γάρ ἐστι τὸ νεάσαι καὶ τὸ γηρᾶσαι...καὶ σπεῖραι καὶ κυοφορῆσαι καὶ ἀποκυῆσαι καὶ τὰ ἄλλα τὰ φυσικὰ ἐνεργήματα ὅσα αἱ τοῦ σοῦ βίου ὧραι φέρουσιν, τοιοῦτο καὶ αὐτὸ τὸ διαλυθῆναι. IV, 23 πᾶν μοι συναρμόζει ὃ σοι εὐάρμοστόν ἐστιν, ὦ κόσμε. οὐδέν μοι πρόωρον οὐδὲ ὄψιμον τὸ σοὶ εὔκαιρον. πᾶν μοι καρπὸς ὃ φέρουσιν αἱ σαὶ ὧραι, ὦ φύσις. Reinhardt 229 takes these as references to the saying attributed to Heraclitus (the former was cited also by Bywater ad fr.) and finds it significant that the ὧραι are in one case applied to the cycle of human events—birth, parenthood and death; but I think this is a very bold presumption, on the basis of two common words. We cannot be sure that they are intended as quotations by Marcus; 'what the seasons bring', whether of human life or the cycle of nature, may well have been a common sort of expression in Greek as it was in English. Even if they are intended as quotations (which I think unlikely), they might not be from Heraclitus but from some well-known poetical source which, as has been seen, Heraclitus also may have been using. Even if the quotations are from Heraclitus, there is nothing to tell us that their context in Marcus in any way reproduces that of Heraclitus. Further, the form of fr. 100 is different from that of these two passages (and, indeed, from that of Plutarch *de def. or.* 416 A): ὥρας αἳ πάντα φέρουσι as opposed to ὅσα, or ὅ, or πάντων ὧν, φέρουσιν ὧραι. I am inclined to think that the unattributed Plutarch passage *is* intended as a reference to Heraclitus, because he has been referred to twice in what preceded, and we know that Plutarch associated the phrase ὥρας αἳ πάντα φέρουσι with Heraclitus.[1] The passages from Marcus, on the other hand, are better left out of the discussion.

If in *de def. or.* 416 A Plutarch was thinking of Heraclitus, then it seems possible that Heraclitus asserted some connexion or parallelism

[1] A sentence in the fifth pseudo-Heraclitean letter, μιμήσομαι θεόν, ὃς κόσμου ἀμετρίας ἐπανισοῖ ἡλίῳ ἐπιτάττων, reminds one strongly of the context of fr. 100. Both are somewhat Posidonian; cf. also the context of fr. 10 in *de mundo*, for the idea of divine order.

between the cycle of the year and the cycle of the human γενεά. That he may have originated or repeated the derivation of ἐνιαυτός from ἐν ἑαυτῷ is independently suggested by the following considerations: (i) this derivation is attributed by Stobaeus, *Ecl.* 1, 8, 43 (p. 108 Wachsm.), to Scythinus: Χρόνος ἐστὶν ὕστατον καὶ πρῶτον πάντων καὶ ἔχει ἐν ἑαυτῷ πάντα καὶ ἐστὶν εἷς ἀεί· καὶ οὐκ ἔστιν ὁ παροιχόμενος ἐκ τοῦ ἐόντος αὐτῷ ἐναντίην ὁδὸν †παρεωνιατῶν†· τὸ γὰρ αὔριον ἡ μὲν [sic] τῷ ἔργῳ χθές ἐστιν, τὸ δὲ χθὲς αὔριον. This has been restored to trochaics by Wilamowitz and is printed by Diels (DK 22C3, 2) among imitations of Heraclitus; it is not quite certain that it came from Scythinus' version of Heraclitus, though it is said by Stobaeus to be from Scythinus Περὶ φύσεως. The last sentence, especially, resembles what passed for a Heraclitean style in the fourth century B.C. (cf. *de victu* I *passim*). (ii) In a fragment of the old comedian Hermippus (fr. 4 Kock) this same derivation immediately precedes what Reinhardt takes to be a clear reference to Heraclitus fr. 103:

ἐκεῖνός ἐστι στρογγύλος τὴν ὄψιν, ὦ πονηρέ,
ἐντὸς δ' ἔχων περιέρχεται κύκλῳ τὰ πάντ' ἐν αὐτῷ,
ἡμᾶς δὲ τίκτει περιτρέχων τὴν γῆν ἁπαξάπασαν,
ὀνομάζεται δ' Ἐνιαυτός, ὢν δὲ περιφερὴς τελευτὴν
οὐδεμίαν οὐδ' ἀρχὴν ἔχει κτλ.

The etymology is a common one in the fifth and fourth century (cf. also Euripides fr. 862 Nauck²; Plato *Crat.* 410D); but these indirect associations with Heraclitus cannot be disregarded. At any rate it was a commonplace that the year was a cycle, the stages of which were the seasons. That Heraclitus commented also on a cycle in human life, not from birth to death but literally from generation to generation, and that the length of this cycle was thirty years, we learn not only from Plutarch but also from Philo and Censorinus (after Varro) [cf. DK A19]: these passages are set out opposite.

It will be seen that Philo gives a totally different explanation of Heraclitus' thirty-year generation from the other two: H. Fränkel, *AJP* 59 (1938) 89f., has shown clearly that it represents an easy perversion of Heraclitus' real reason, reproduced by Plutarch and Censorinus. Thirty years is the average length of time between a father's generation of a son, and that son's generation in his turn of another son: this is a cycle of life, more truly so than the interval between life and death, and it is indeed what we mean today by

Plut. *de def. or.* 11, 415E	Philo *Qu. in Gen.* II, 5 Aucher	Censorinus *de die nat.* 17, 2
	unde non gratis ac frustra Heraclitus generationem id vocavit, quum diceret: [fr. Harris (Camb. 1886), p. 20]	saeculum est spatium vitae humanae longissimum partu et morte definitum. quare qui annos triginta saeculum putarunt multum videntur errasse. hoc enim tempus genean vocari Heraclitus auctor est, quia orbis aetatis in eo sit spatio; orbem autem vocat aetatis, dum natura ab sementi humana ad sementim revertitur.
ἀλλ' οἱ μὲν "ἡβώντων" ἀναγιγνώσκοντες ἔτη τριάκοντα ποιοῦσι τὴν γενεὰν καθ' Ἡράκλειτον, ἐν ᾧ χρόνῳ γεννῶντα παρέχει τὸν ἐξ αὐτοῦ γεγεννημένον ὁ γεννήσας.	δυνατὸν ἐν τριακοστῷ ἔτει τὸν ἄνθρωπον πάππον γενέσθαι· ἡβᾶν μὲν περὶ τὴν τεσσερεσκαιδεκάτην ἡλικίαν, ἐν ᾗ σπείρει, τὸ δὲ σπαρὲν ἐντὸς ἐνιαυτοῦ γενόμενον πάλιν πεντεκαιδεκάτῳ ἔτει τὸ ὅμοιον ἑαυτῷ γεννᾶν.	

'a generation'. Philo misinterpreted a rather confusing statement of this fact, like Plutarch's, and assumed that Heraclitus held a generation to be thirty years because this was the least age at which one could become a grandfather!—for, theoretically, a boy becomes potentially procreative at the age of fourteen. This would be an absurd criterion and there can be no question at all that Philo was mistaken.[1] But Philo's mistake may be partly due to a statement evidently ascribed to Heraclitus in a Stoic account: Aëtius V, 23 (DK 22A18) Ἡράκλειτος καὶ οἱ Στωικοὶ ἄρχεσθαι τοὺς ἀνθρώπους τῆς τελειότητος περὶ τὴν δευτέραν ἑβδομάδα, περὶ ἣν ὁ σπερματικὸς κινεῖται ὀρρός. καὶ γὰρ τὰ δένδρα ἄρχεται τότε τελειότητος, ὅταν ἄρχηται γεννᾶν τὰ σπέρματα. This coincides in part with Aristotle, *HA* H 1, 581a12ff., who also puts the age of puberty around the fourteenth year. The question is whether this attribution to Heraclitus was due to some Stoic who made the same mistake as Philo, or whether Heraclitus did in fact say that humans reached a kind of completeness around the fourteenth year: Reinhardt, *op. cit.* 232f., thinks that the latter is the case, and that the comparison with trees shows that Heraclitus drew, here too, a parallel between human cycles and cycles in the world of nature. This is possible but incapable of proof. Yet if (as is certain) he referred to 'the seasons which

[1] That the statement of Heraclitus' view of a generation available to later antiquity was obscure is perhaps suggested by the still grosser error perpetrated by John Lydus, *de mens.* III, 14 Ἡράκλειτος γενεὰν τὸν μῆνα καλεῖ—unless Heraclitus really thought that any true natural cycle could be called γενεά, as Cleombrotus did in Plutarch; or perhaps John Lydus was simply developing Cleombrotus' theory, and wrongly associated it with Heraclitus.

produce all things', and if (as is probable) he associated this idea with the year-cycle, and the year-cycle with the human γενεά, and if (as is certain) he declared this γενεά to be a cycle of thirty years from generation to generation, then it is a reasonable assumption that he compared the lengths of the cycles of human life with the lengths of the cycles of events in nature.

Now there is evidence that Heraclitus spoke of a much larger natural cycle than that of the year: Censorinus *de die nat.* XVIII, 11 (after a discussion of the Egyptian Sothis-period) 'est praeterea annus quem Aristoteles [fr. 25: probably from the *Protrepticus* according to Reinhardt, *Parmenides* 183 n. 2] maximum potius quam magnum appellat, quem solis et lunae vagarumque quinque stellarum orbes conficiunt, cum ad idem signum ubi quondam simul fuerunt una referuntur; cuius anni hiemps summa est cataclysmos, quam nostri diluvionem vocant, aestas autem ecpyrosis, quod est mundi incendium. nam his alternis temporibus mundus tum ignescere tum exaquescere videtur. hunc Aristarchus putavit esse annorum vertentium IICCCCLXXXIIII, Aretes Dyrrachinus VDLII, Heraclitus et Linus XDCCC, Dion XDCCCLXXXIIII, Orpheus CXX, Cassandrus tricies sexies centum milium: alii vero infinitum esse nec umquam in se reverti existimarunt.' Compare Aëtius II, 32, 3 Ἡράκλειτος ἐκ μυρίων ὀκτακισχιλίων ἐνιαυτῶν ἡλιακῶν [sc. τὸν μέγαν ἐνιαυτὸν εἶναι]. Diels has emended here to ὀκτακοσίων (DK 22 A 13) to bring this passage into line with Censorinus; the corruption would be an easy one. 18,000 years is, it is true (as Schuster 375 f., Burnet 157 pointed out), half of 36,000 years, which is a possible cycle (used, for example, by the Babylonians): but whatever the cycle intended in Heraclitus, half of it is of no use whatever, nor can 'the way up and down' be introduced to help it. On the other hand 10,800 years is very plausible, as shown below. The Censorinus passage, as Reinhardt, *Parmenides* 183, pointed out, is a complete muddle; it is obviously based upon a Stoic source, and records year-cycles established for entirely different motives as though they were all Stoic ἐκπύρωσις-periods—astronomical cycles of planetary conjunctions, Babylonian astrological cycles, and lengths of legendary generations (Orpheus). Aëtius and Censorinus are probably using the same source, which Reinhardt, *Parmenides* 189, declared to be Diogenes of Babylon on the strength of Aëtius II, 32, 4, Διογένης ὁ Στωικὸς ἐκ πέντε καὶ ἑξήκοντα καὶ τριακοσίων ἐνιαυτῶν

τοσούτων ὅσος ἦν ὁ καθ' Ἡράκλειτον ἐνιαυτός. This seems probable: Diogenes was a Stoic who presumably had an astrological background (Plutarch too, in the *de def. or.* passage, had used, though critically, a Stoic source). There is little reason, in any event, to doubt the information that Heraclitus postulated some kind of cycle of 10,800 years: but what kind of cycle can this have been? Can it have been an ἐκπύρωσις-cycle (i.e. the lapse of time from one conflagration to the next), as the later Stoics claimed? This depends on one's view of whether or not Heraclitus believed in an ἐκπύρωσις. I believe very strongly that he did not; all the evidence of the fragments, and most of the non-Stoic doxographical evidence, is absolutely against the hypothesis; cf. pp. 335 ff. This explanation, then, is of no avail. Lassalle, II, 191 ff., suggested that the period is that which elapses, in the cycle of changes of matter, before any particular piece of matter regains its former state of fire: Burnet 157 f. adopted a similar explanation and attempted to reinforce it by a curious and to me unintelligible argument based on Aristotle *de caelo* A 10, 279 b 14–280 a 15. However, he did make a correct connexion with the idea of the human generation. This interpretation has much in its favour—see now Vlastos, *AJP* 76 (1955) 311 f. It is handicapped, first, by the inherent improbability of Heraclitus having established a definite time for the cycle of matter; secondly, by the fact that this cycle was spasmodic and not necessarily continuous, so that no finite length could be predicted in any particular case; and lastly (as Burnet 158 apprehended), by the difficulty of supposing that any one piece of matter preserved enough individuality throughout its changes to 'have' a cycle: in fact, the whole idea of *every* piece of matter undergoing equal changes goes far beyond what is implied by the μέτρα of fr. 30, which apply only to totals. Actually, as will be seen, the probable form of the proportion demands that the interval of 10,800 years is connected not with a general physical, but with an exclusively anthropological change.

How was the figure of 10,800 years most probably reached? The answer to this question may reasonably be expected to provide an explanation of the cycle. It has long been seen that 10,800 is a product of 360 (a commonly accepted number of days in the year) and 30 (the number of days in the month, *or* the number of years in a γενεά). Since Heraclitus certainly specified 30 years as the length

of a γενεά it is perhaps more probable that the hypothetical 30-factor refers to this. Thus there are three known cycles involved: (i) the human cycle of the generation, 30 years; (ii) the shortest obvious natural cycle, namely, the day; (iii) the largest obvious natural cycle, namely, the year of 360 days. From a ratio of these cycles a fourth cycle is deduced, that of the so-called 'great year', which is called x in the proportional summary $1:360::30:x$ ($\therefore x = 10{,}800$). Thus x is related, not to a natural cycle, but to a human cycle: 10,800 years is the longest human cycle just as 30 years is the shortest human cycle (from generation to generation), and bears the same relationship to it as the longest natural cycle (the year) bears to the shortest one (the day). This conclusion is indeed speculative, but it is an attractive one, especially in view of Heraclitus' fondness for the proportional statement: cf. frr. 79, 82–3, 9 etc.; Fränkel *AJP* 59 (1938) 309ff. What then does this 10,800-year human cycle represent? It is obviously nothing to do with the living human being, and must be concerned with the soul. Other such cycles are known in connexion with Orphic beliefs of a κύκλος τοῦ βίου: see Herodotus II, 123; Empedocles fr. 115; Plato *Phaedr.* 248C—10,000 years being the total cycle for the soul, from first incarnation to escape from the wheel of birth into divinity, for Empedocles and Plato, and 3000 for Herodotus' Egyptians. Now Heraclitus certainly was not himself an 'Orphic', but he equally certainly believed that in some cases men, after death, could become δαίμονες: see frr. 62, 63; 24, 25, 27, 136D, and my article 'Heraclitus and Death in Battle', *AJP* 70 (1949) 384ff. Further, the whole context in Plutarch *de def. or.* is concerned with the periods which must elapse before a human soul can become heroic, daimonic, or even fully divine—the χρόνος ἐν ᾧ μεταλλάττει δαίμονος ψυχὴ καὶ ἥρωος ⟨τὸν⟩ βίον (416C): and it has been seen that Plutarch, at any rate during parts of this discussion, had Heraclitus in mind. This again is very speculative, and, in default of more certain evidence, must remain so. What is significant here is that fr. 100 has led, by a series of unconfirmable but not implausible inferences, to a connexion between the periods in the cosmos and the periods in the anthropological sphere: these inferences have been grounded upon the doxographical evidence about the γενεά and the 'great year': and they show at least, what is obvious from other fragments, that for Heraclitus there was no rigid division between one field of speculation and another, but that all reality

belongs to a single connected system which is based upon the Logos. In so doing they show incidentally that it is legitimate to extend the concept of μέτρον, which has been found in some fragments of this group to apply in the astronomical sphere, to other branches of physics and indeed to existence in general.

It is relevant to consider here what Diels classed as a dubious or false fragment, fr. 137 (63B): Aëtius I, 27, 1 (= Stob. *Ecl.* I, 5, 15) Ἡράκλειτος πάντα καθ' εἱμαρμένην, τὴν δ' αὐτὴν ὑπάρχειν ἀνάγκην· γράφει γοῦν· ἔστι γὰρ εἱμαρμένα [F: εἱμαρμένη C] πάντως.... The text in Stobaeus apparently breaks off here: the next paragraph (missing, like γράφει γοῦν onwards, in pseudo-Plutarch) reports an opinion of Chrysippus. Theodoretus, VI, 13, gave a slightly fuller version of the part common to Stobaeus and pseudo-Plutarch: καὶ ὁ Ἡράκλειτος δὲ πάντα καθ' εἱμαρμένην εἴρηκε γίγνεσθαι, ἀνάγκην δὲ τὴν εἱμαρμένην καὶ οὗτος ὠνόμασε. Thus we are entirely dependent on a disputed and faulty text of Stobaeus alone for this so-called fragment. Diels held it to be an addition by Stobaeus derived from Chrysippus (evidently treated next in Aëtius). In *Herakleitos*[2], 51, he had further remarked that πάντως belonged to the missing sequel; this is obviously wrong, since it can perfectly well qualify εἱμαρμένα. But it is not even certain that this is the right reading: if εἱμαρμένη is correct then the 'fragment' is undeniably of Stoic origin, since εἱμαρμένη as a noun is not found before Plato and is, of course, a common Stoic term. Diels (quoted, evidently with approval, by Kranz) called εἱμαρμένα, too, a Stoic term. This again is quite misleading, since the participle appears at Theognis 1033 (θεῶν δ' εἱμαρμένα δῶρα) and Aeschylus *Ag.* 913 (...σὺν θεοῖς εἱμαρμένα, a difficult expression: the text may be corrupt), as well as Sophocles *Trach.* 169 and other places. There are a number of doxographical passages in which the concept if not the word εἱμαρμένα is attributed to Heraclitus. Diog. L. IX, 7, IX, 8 and Aëtius I, 7, 22 may depend primarily on Theophrastus Φυσ. δόξ. fr. 1, ποιεῖ δὲ καὶ τάξιν τινὰ καὶ χρόνον ὡρισμένον τῆς τοῦ κόσμου μεταβολῆς κατά τινα εἱμαρμένην ἀνάγκην. Aëtius I, 27, 1, however (the context of the doubtful fragment), and I, 28, 1 are derived from a Stoic source (cf. Diels *Doxographi* 178), which might nevertheless have repeated an actual quotation correctly. Diels' argument that direct quotations of Heraclitus do not occur in Aëtius is absurd: fr. 3 is probably such

a quotation. Note that Theophrastus did not attribute εἱμαρμένη to Heraclitus, but τινα εἱμαρμένην ἀνάγκην: it is possible that Heraclitus used the words ἀνάγκη *and* (participially or adjectivally) εἱμαρμένα (-ην etc.). Aëtius I, 27, 1, moreover, could intend to suggest that Heraclitus used the word ἀνάγκη for what the Stoics more commonly called εἱμαρμένη—though Zeno probably used both words (*SVF* I, 160) and Chrysippus sometimes equated them (*SVF* II, 997 and 1076, the last being Philodemus *de piet.* c. 11 [Χρύσιππος] καὶ . . .ιαν ὀν[ομάζεσ]θαι τὸν Δία καὶ τὴν κοινὴν πάντων φύσιν καὶ εἱμαρμ[έ]νην καὶ ἀνά[γ]κην). Theophrastus might naturally have used εἱμαρμένην adjectivally on his own account, to expand a Heraclitean concept of ἀνάγκη. On the other hand, we have no other evidence that Heraclitus talked of a cosmic ἀνάγκη, and indeed Theophrastus may be basing these words, as he certainly is those that precede them, on nothing more than the ἁπτόμενον μέτρα καὶ ἀποσβεννύμενον μέτρα of fr. 30. But Heraclitus did perhaps say that all things happened κατὰ χρεών, cf. fr. 80.

It is clear that no study of the doxographical material is going to show whether this alleged quotation from Heraclitus is genuine. Certainly the Stoics were keen to attribute εἱμαρμένη to him, and the quotation, if it is not displaced in Stobaeus, may be due to this wish: this is almost certainly the case if εἱμαρμένη and not εἱμαρμένα is the correct reading. But the former is more likely to be a (Stoic) corruption than the latter; and εἱμαρμένα πάντως at any rate has a dactylic rhythm, like frr. 3 and 100. This suggests that it may not belong to Heraclitus himself but to a hexameter version—though here again a Stoic version cannot be ruled out. The first extant uses of πάντως in a positive sense meaning 'in all ways' are Parmenides, fr. 4, 3; Aesch. *Pers.* 689. In Herodotus it is used often with δεῖ, which is close to its use with εἱμαρμένα: e.g. VII, 10 εἰ δὴ δεῖ γε πάντως. It is perfectly possible for Heraclitus to have said 'all things are absolutely (or inevitably) apportioned', meaning nothing more than that there were μέτρα of all natural events, which could not be transgressed;[1] it is possible, moreover, that the dactylic rhythm of εἱμαρμένα πάντως is accidental; also the presence of ἔστι γάρ in the quotation cannot be totally ignored—the γάρ cannot here be (as it

[1] πάντως might also mean 'in the end', 'sooner or later', as at Solon fr. 1, 8 Diehl, πάντως ὕστερον ἦλθε δίκη. Cf. *ibid.* 31. At 55 πάντως surely qualifies what follows.

often is) due to the external context. Thus the possibility cannot be ruled out that the fragment as quoted is by Heraclitus after all: Zeller (ZN 839 n. 1), Lortzing (*Berl. Phil. Woch.* (1903) 36), H. Gomperz (*Hermes* 58 (1923) 51ff.), and Gigon (73 and 81) have been inclined to accept it, though only the last inspires confidence by his treatment of the evidence. It is obvious that no definite decision can be made either way: the supposed fragment could be genuine, and as such would give a possible sense, though not one which adds to our knowledge of Heraclitus; it could also be a Stoic summary perhaps mistakenly quoted under its present heading by Stobaeus. At all events Heraclitus' idea of apportionment was very different from the Stoic concept of εἱμαρμένη, and belongs rather to his theory of the μέτρα underlying all natural change.

GROUP 10

Frr. **30**, **31**, **36** [+ 76D], **90**, **64**, **65** [+ 66D], **16**

The fragments of this group deal with the characteristics of cosmic fire. The world-order itself (i.e. the perceptible cosmos and its inherent arrangement) is an 'ever-living' fire of which measures are constantly going out and corresponding measures constantly being kindled (fr. 30); it thus behaves *like* a fire, which turns to smoke and consumes fuel in equal proportions. But fire is more than a symbol, it is the actual basic substance of the world. Fr. 31 describes the changes undergone by fire in the constant natural process: first into sea, then into earth, and then the reverse. The quantities of each remain unchanged because of the preservation of the measures. Thus fire, sea and earth are the three main world-masses, of which fire (presumably that composing the sky and the heavenly bodies) is the originative one. In fr. 36 the metaphor of 'death' is used partly of these cosmological alterations. In fr. 90 the equality of the exchanges is again emphasized, together with the primary importance of fire, of which sea and earth are only variants. Fire 'steers' all things—that is, it is responsible for the preservation of the constant exchanges upon which the maintenance of a more or less stable world depends (fr. 64). Frr. 65 and 16 are of uncertain meaning, but they may well re-emphasize in metaphorical terms the regularity and directive capacity of fire.

30

(20B)

Clement *Stromateis* v, 104, 1 (II, 396 Stählin) σαφέστατα ⟨δ'⟩ Ἡράκλειτος ὁ Ἐφέσιος ταύτης ἐστὶ τῆς δόξης [sc. ὡς ἐσομένης ποτὲ εἰς τὴν τοῦ πυρὸς οὐσίαν μεταβολῆς], τὸν μέν τινα κόσμον ἀίδιον εἶναι δοκιμάσας τὸν δέ τινα φθειρόμενον, τὸν κατὰ τὴν διακόσμησιν εἰδὼς οὐχ ἕτερον ὄντα ἐκείνου πως ἔχοντος· ἀλλ' ὅτι μὲν ἀίδιον τὸν ἐξ ἁπάσης τῆς οὐσίας ἰδίως[1] ποιὸν κόσμον ᾔδει, φανερὸν ποιεῖ λέγων οὕτως· **κόσμον ⟨τόνδε⟩**[2] τὸν αὐτὸν ἁπάντων[3] **οὔτε τις θεῶν οὔτε ἀνθρώπων ἐποίησεν, ἀλλ' ἦν ἀεὶ καὶ ἔστιν καὶ ἔσται· πῦρ ἀείζωον, ἁπτόμενον μέτρα καὶ ἀποσβεννύμενον μέτρα.** ὅτι δὲ καὶ γενητὸν καὶ φθαρτὸν αὐτὸν εἶναι ἐδογμάτιζεν μηνύει τὰ ἐπιφερόμενα· (seq. fr. 31).

1 ἀιδίως codd., em. Bernays. 2 τόνδε Simplicius, Plutarchus, om. Clem. 3 τὸν αὐτὸν ἁπάντων Clem., om. Simpl., Plut.

Heraclitus the Ephesian is most clearly of this opinion [sc. that there will some time be a change into the essence of fire]; he considered that the world in one sense is eternal, but in another sense is in the course of destruction, knowing that the world of this world-order is none other than a modification of the eternal world. But that he knew that the world exclusively as such, composed of all reality, is eternal, he makes clear by these words: This (world-) order (*the same of all*) did none of gods or men make, but it always was and is and shall be: an ever-living fire, kindling in measures and going out in measures. *And that he pronounced the opinion that it is both created and destructible, the following words tell us: (fr. 31 follows).*

Clement is discussing ἀνάληψις, resurrection, a prediction of which he sees in various theories of things turning into fire. Heraclitus, he thinks, is a good example of this. Here he is following the interpretation of Heraclitus initiated by Theophrastus or Aristotle and popularized by the Stoics, that the world is periodically consumed by an ἐκπύρωσις: Clement is almost certainly dependent here on a Stoic source—see the context of fr. 31 (which follows in Clement), where οἱ ἐλλογιμώτατοι τῶν Στωικῶν are said to have held opinions

very similar to those attributed to Heraclitus. The immediate problem for the Stoic source was the reconciliation of this statement of Heraclitus, that the κόσμος was uncreated and will last for ever, with the Stoic assignment to him of a periodic world-conflagration. The reconciliation was carried out simply, in precise Stoic phraseology (cf. Arius *ap.* Euseb. *P.E.* XV, 15 [*Doxographi* 464]), by the assertion that κόσμος here means not the particular world we see and live in, which is subject to conflagration, but the all-embracing world, or pattern of existence, within which phases of διακόσμησις and ἐκπύρωσις take place. That this distinction of two senses of κόσμος was not made by Heraclitus himself needs no elaboration; we must simply be grateful that the need for making it ensured the preservation of one of Heraclitus' most important, if most difficult, sayings.

First the correct text and punctuation must be established. Most editors have accepted the words τὸν αὐτὸν ἁπάντων as belonging to Heraclitus: Reinhardt, however (*Parmenides* 170 n. 1; *Hermes* 77 (1942) 12ff.), has maintained—I believe rightly—that they are an interpolation by Clement. We have two other testimonies for this part of the fragment:

(1) Plutarch *de an. procr.* 5, 1014A κόσμον τόνδε, φησὶν Ἡράκλειτος, οὔτε τις θεῶν οὔτ' ἀνθρώπων ἐποίησεν, ὥσπερ φοβηθεὶς μὴ θεοῦ ἀπογνόντες ἄνθρωπόν τινα γεγονέναι τοῦ κόσμου δημιουργὸν ὑπονοήσωμεν. This is merely a passing reference.

(2) Simplicius *de caelo*, p. 294 Heiberg (the whole relevant context is quoted, and will be discussed below) καὶ Ἡράκλειτος δὲ ποτὲ μὲν ἐκπυροῦσθαι λέγει τὸν κόσμον ποτὲ δὲ ἐκ τοῦ πυρὸς συνίστασθαι πάλιν αὐτὸν κατά τινας χρόνων περιόδους, ἐν οἷς φησί "μέτρα ἁπτόμενος καὶ μέτρα σβεννύμενος". [μέτρια...μέτρια A, Galen *de tremore* VII, 617 Kühn.] ταύτης δὲ τῆς δόξης ὕστερον ἐγένοντο καὶ οἱ Στωικοί...καὶ Ἡράκλειτος δὲ δι' αἰνιγμῶν τὴν ἑαυτοῦ σοφίαν ἐκφέρων οὐ ταῦτα ἅπερ δοκεῖ τοῖς πολλοῖς σημαίνει· ὁ γοῦν ἐκεῖνα εἰπὼν περὶ γενέσεως ὡς δοκεῖ τοῦ κόσμου καὶ τάδε γέγραφε· κόσμον τόνδε οὔτε τις θεῶν οὔτε ἀνθρώπων ἐποίησεν, ἀλλ' ἦν ἀεί· πλὴν ὅτι ὁ Ἀλέξανδρος, βουλόμενος τὸν Ἡράκλειτον γενητὸν καὶ φθαρτὸν λέγειν τὸν κόσμον, ἄλλως ἀκούει τοῦ κόσμου νῦν. οὐ γὰρ μαχόμενα, φησί, λέγει ὡς ἄν τῳ δόξαι· κόσμον γάρ, φησίν, ἐνταῦθα οὐ τήνδε λέγει τὴν διακόσμησιν, ἀλλὰ καθόλου τὰ ὄντα καὶ τὴν τούτων διάταξιν, καθ' ἣν εἰς ἑκάτερον ἐν μέρει ἡ μεταβολὴ τοῦ παντός, ποτὲ μὲν εἰς πῦρ ποτὲ δὲ εἰς τὸν

τοιόνδε κόσμον· ἡ γὰρ τοιαύτη τούτων ἐν μέρει μεταβολὴ καὶ ὁ τοιοῦτος κόσμος οὐκ ἤρξατό ποτε, ἀλλ' ἦν ἀεί. From this passage it is clear that Simplicius is dependent partly upon a Stoic source, but partly (as often) upon Alexander's commentary; neither in Plutarch nor in Simplicius does the phrase τὸν αὐτὸν ἁπάντων occur. We cannot be certain that Alexander had the whole fragment in front of him; but his version, in any case, cannot have contained the phrase τὸν αὐτὸν ἁπάντων, which he would certainly have quoted in substantiation of the distinction he was trying to make, one which he summarized in the words καθόλου τὰ ὄντα καὶ τὴν τούτων διάταξιν. Moreover, Simplicius, who did know the Heraclitus saying, would hardly have suppressed a phrase which so strongly supported the Aristotle-Alexander argument. The phrase might have occurred in the Stoic source used by Clement, but it is perhaps more probable that Clement supplied it himself; an examination of the quotations by Clement from Heraclitus shows that he was given to interpolating short glosses of this sort: so in fr. 14 (τούτοις ἀπειλεῖ κτλ.), fr. 20 (μᾶλλον δὲ ἀναπαύεσθαι), and fr. 26 (ἀποθανών); cf. the added connexion καὶ μέντοι καί in fr. 28. The same is true of Clement's quotations from all authors. His motive for adding this explanatory phrase is equally plain: he wished to show clearly to what the phrase τὸν ἐξ ἁπάσης τῆς οὐσίας ἰδίως ποιὸν κόσμον referred; τὸν αὐτὸν ἁπάντων is an over-condensed but unmistakable summary of the longer Stoic interpretation. Zeller, ZN 812 n., objected that in this case ἁπάντων must stand for ἁπάντων ⟨τῶν κόσμων⟩, and the sense must be 'the same order for all the worlds'—a double use of κόσμος which would, he thought, be extremely improbable. But the distinction between two kinds of κόσμος is precisely what Clement himself has just carried out—why then should he not himself use this distinction for exegetic purposes? If the three words really were by Heraclitus (as is accepted recently by Kranz, *Philologus* 93 (1939) 441; Deichgräber, *Rh.M.* 89 (1940) 48 n. 4), other difficulties would occur. Gigon 55 supposes that they form a suitable addition (ἁπάντων meaning 'all existing things') if (as is probably the case) κόσμον τόνδε means, not 'this world', but 'this order': but I do not see the point of τὸν αὐτόν in this case, even granting that it is possible Greek for 'this order which embraces all existing things'; cf. ξυνῷ πάντων in fr. 114. Rather τὸν αὐτόν suggests that there is a κόσμος which is somehow *not* the same for,

or does not include, all things; this points clearly again to the Stoic distinction adopted by Clement.

The second question is that of punctuation. Only H. Gomperz (*Hermes* 58 (1923) 49), Reinhardt (*Parmenides* 171ff.; *Hermes* 77 (1942) 10ff.) and Snell (*Heraklit: Fragmente*, Tuskulum-Bücher, 2nd ed. (1940) 15) have printed a stop after ἔσται: again it was Reinhardt who initiated this change (of which Kranz in DK remarked merely that it 'scheint unmöglich'), for which the chief reason is that ἦν καὶ ἔστιν καὶ ἔσται and its variants are a formula often used from Homer onwards, but never copulatively. It would be surprising if Heraclitus altered the application of such a solemn, almost hieratic phrase by abandoning its existential sense, true though it is that distinctions between different usages of 'to be' were not yet properly recognized. Instances of the formula are: *Il.* I, 70 ὃς ᾔδη τά τ' ἐόντα τά τ' ἐσσόμενα πρό τ' ἐόντα; Hesiod *Theog.* 38; fr. 96, 75 ...]οτι καὶ ὁππόσα μέλλει ἔσεσθαι; Empedocles fr. 21, 9 ὅσα τ' ἦν ὅσα τ' ἔστι καὶ ἔσται; Melissus fr. 2 ὅτε τοίνυν οὐκ ἐγένετο, ἔστι τε καὶ ἀεὶ ἦν καὶ ἀεὶ ἔσται; Anaxagoras fr. 12 καὶ ὁποῖα ἔμελλεν ἔσεσθαι καὶ ὁποῖα ἦν, ἅσσα νῦν μὴ ἔστι, καὶ ὅσα νῦν ἔστι καὶ ὁποῖα ἔσται πάντα διεκόσμησε νοῦς. Cf. Plato *Parm.* 155D ἦν ἄρα τὸ ἓν καὶ ἔστι καὶ ἔσται; *Tim.* 37E λέγομεν γὰρ δὴ ὡς ἦν ἔστιν τε καὶ ἔσται, τῇ δὲ [sc. αἰδίᾳ οὐσίᾳ] τὸ ἔστιν μόνον κατὰ τὸν ἀληθῆ λόγον προσήκει, where Reinhardt, *Hermes* 77 (1942) 11, appropriately comments: 'Platonische Polemik gegen die vorsokratische Ewigkeitsformel.' The one example cited by Reinhardt of a copulative use, Anaxagoras fr. 12 *fin.*, is not strictly comparable, for there is intentional stress on both the imperfect and the present tense: ἕτερον δ' οὐδέν ἐστι ὅμοιον οὐδενί, ἀλλ' ὅτων πλεῖστα ἔνι, ταῦτα ἐνδηλότατα ἓν ἕκαστόν ἐστι καὶ ἦν. A further reason against the conventional punctuation, though by no means a compelling one, is that ἀεὶ καὶ ἔστιν καὶ ἔσται πῦρ ἀείζωον involves an unnecessarily clumsy repetition of ἀεί; and another, much stronger one, that Simplicius in the passage quoted above ends his quotation from Heraclitus at ἦν ἀεί. We know from other fragments that Heraclitus tended to avoid the copulative εἶναι in abstract statements and that he preferred connexion by apposition (perhaps because this allowed the nature of the relationship to remain somewhat vague); the most notable parallel is fr. 51, οὐ ξυνιᾶσιν ὅκως διαφερόμενον ἑωυτῷ ξυμφέρεται· παλίντονος ἁρμονίη ὅκωσπερ τόξου καὶ λύρης. In frr. 31 and 67 the predicate (or subject)

is put as a kind of heading, with no copula, and is followed by a list of subjects (or predicates). In fr. 51 it is probable that no absolute equivalence between ⟨τὸ⟩ διαφερόμενον (or διαφερόμενόν ⟨τι⟩) and ἁρμονίη is intended, but rather a looser relationship, 'there is a connexion...'. So too in this fragment there is formally no strict assertion that this κόσμος is a fire; we could understand, if we wished and if it seemed more appropriate, 'there is a fire', or even 'it resembles a fire': more of this below. Gigon 52 tried to have the best of both worlds by suggesting that ἦν, etc., are both copulative and existential, there is in fact 'einer Art Doppelbezogenheit'! This was rightly rejected by Reinhardt.

It need hardly be said that οὔτε τις θεῶν οὔτε ἀνθρώπων is a polar expression with an all-inclusive sense; its components are not to be taken separately and literally, for no one had seriously supposed that any man, at least, had made this κόσμος. 'No god or man' means 'absolutely no one at all', as at *Il.* VIII, 27; XIV, 342; and Xenophanes fr. 23, εἷς θεὸς ἔν τε θεοῖσι καὶ ἀνθρώποισι μέγιστος. It is probable that this emphatic mode of expression is intended to convey criticism of traditional accounts of world-birth and world-arrangement (e.g. the *Theogony*) carried out by deities, and possibly of philosophical cosmogonies of the Milesian type; what Heraclitus primarily wanted to say was that this κόσμος is uncreated and eternal. This polar expression, like the hieratic formula ἦν ἀεὶ καὶ ἔστι καὶ ἔσται, the epithet ἀείζωον, and the repeated μέτρα, are the most striking elements of a pronouncement which is solemn, elaborate and portentous, which reveals its origins in heroic verse, and which in its complexity and discursiveness is most similar, among the fragments of Heraclitus, to fr. 1—though this in itself should not persuade one to accept Gigon's suggestion (p. 51) that it may have opened the cosmological part of Heraclitus' work. However, the monumental style probably indicates that this pronouncement was considered by Heraclitus as an especially important one.

The next problem to be faced is that of the meaning of κόσμος in this fragment. The one which at once springs to mind is 'world': but it is at last beginning to be accepted that this is a later philosophical-scientific development which cannot be assumed as normal before the fourth century (for which see Cornford, *CQ* 28 (1934) 1f.). Examinations of early uses have been carried out by Reinhardt (*Parmenides* 174ff.), Gigon (52ff.) and Kranz (*Philologus* 93 (1938–9)

430ff.)—the last being somewhat undiscriminating in his acceptance of evidence on the Presocratics. The basic meaning of κόσμος (√κεδ-) is 'order' (i.e. some kind of arrangement as opposed to none): thus εὖ, οὐ κατὰ κόσμον at *Il.* x, 472; ii, 214; *Od.* viii, 179, etc.; frequently in the dative, οὐδενὶ κόσμῳ at Hdt. iii, 13; viii, 60 etc., Thuc. iii, 108 etc. Very often such references are to physical arrangement (~τάξις), of an army or ship's crew, etc., as at *Il.* x, 472; *Od.* xiii, 77; Hdt. viii, 67. Of political arrangement κόσμος is found at, for example, Hdt. i, 65; i, 99; Democritus frr. 258, 259: cf. the Cretan magistrates known as κόσμοι. Analogous to this sense is that of 'good behaviour', as in the adjective κόσμιος. The word can also mean 'ornament' or 'decoration' (cf. especially the geometric style), of which the earliest instances are the Homeric ones, *Il.* iv, 145; xiv, 187. Aeschylus *Ag.* 355 f. (Νὺξ...μεγάλων κόσμων κτεάτειρα) is an example of this meaning. Finally, there is a semi-logical sense of κόσμος applied especially to songs or recitations: so in the Orphic fragment *ap.* Plato *Phileb.* 66c (DK 1B1), καταπαύσατε κόσμον ἀοιδῆς; Solon fr. 2, 2 Diehl; Parmenides fr. 8, 52 κόσμον ἐμῶν ἐπέων ἀπατηλόν; Democritus fr. 21; and possibly *Od.* viii, 492, where ἵππου κόσμον ἄεισον δουρατέου may refer more to the 'order' of the well-known song than to the 'structure' of the actual horse.

On supposed Presocratic uses the following observations may be made: (i) I cannot agree with Reinhardt, Kranz, and Gigon (who wrongly refers, p. 53, to H. Fränkel), that Theophrastus' τοὺς οὐρανοὺς καὶ τοὺς ἐν αὐτοῖς κόσμους *ap.* Simpl. *in Phys.* 24, cf. Hippolytus *Ref.* i, 6, 1, represents the actual words of Anaximander; the distinction of the two terms here depends upon Aristotle's definition at *de caelo* A 9, 278b11. There is no suggestion that Theophrastus is quoting Anaximander. (ii) I side with Reinhardt (*Kosmos u. Sympathie* 209ff.), Wilamowitz (*Glaube der Hellenen* i, 374 n. 3) and Gigon 54 against the conventional view (cf. e.g. Kranz *loc. cit.*), in thinking that Anaximenes fr. 2 is distorted by re-wording. (The parallel between man and cosmos is first *explicitly* drawn by medical speculation in the fifth century.) If all the fragment were genuine, κόσμος would have to mean 'world' (here alone) by the time of Anaximenes. Similarly, I cannot accept Kranz' extreme view that chapters 1–11 of π. ἑβδομάδων, in which κόσμος means 'world', date from as early as *c.* 500 B.C. (iii) Nowhere else in the

genuine sayings of Heraclitus does κόσμος occur: for in fr. 75 τῶν ἐν τῷ κόσμῳ γινομένων is added by Marcus; the first part of fr. 89 is a paraphrase by Plutarch; and in fr. 124 McDiarmid, *AJP* 62 (1941) 492ff., and Friedländer, *AJP* 63 (1942) 336, have adequately shown that κόσμος belongs to Theophrastus. (iv) Melissus fr. 7 may be the first occurrence, apart from Heraclitus fr. 30, of κόσμος in a philosophical context: ἀλλ' οὐδὲ μετακοσμηθῆναι ἀνυστόν [sc. τὸ ἐόν]· ὁ γὰρ κόσμος ὁ πρόσθεν ἐὼν οὐκ ἀπόλλυται οὔτε ὁ μὴ ἐὼν γίνεται. Here κόσμος clearly means 'arrangement of things'. (In Parmenides fr. 4 κατὰ κόσμον exemplifies the common use, 'in order'.) (v) Empedocles fr. 26, 5 ἄλλοτε μὲν Φιλότητι συνερχόμεν' εἰς ἕνα κόσμον. κόσμον here means 'group', or 'arrangement, organism'; but in fr. 134, 4, φροντίσι κόσμον ἅπαντα καταΐσσουσα, the sense 'world-order' or 'world' is clear. (vi) Anaxagoras fr. 8 οὐ κεχώρισται ἀλλήλων τὰ ἐν τῷ ἑνὶ κόσμῳ οὐδὲ ἀποκέκοπται πελέκει οὔτε τὸ θερμὸν ἀπὸ τοῦ ψυχροῦ οὔτε τὸ ψυχρὸν ἀπὸ τοῦ θερμοῦ. Here again the εἷς κόσμος is the one group or category—in this case, probably, the continuum formed by each pair of opposites. (vii) Diogenes fr. 2 εἰ γὰρ τὰ ἐν τῷδε τῷ κόσμῳ ἐόντα νῦν, γῆ καὶ ὕδωρ καὶ ἀὴρ καὶ πῦρ καὶ τὰ ἄλλα ὅσα φαίνεται ἐν τῷδε τῷ κόσμῳ ἐόντα, ... The meaning here is harder to isolate, but again κόσμος may contain, strongly emphasized, the sense of 'arrangement': 'in this arrangement' and not simply 'in this world'; cf. (iv) above.

Thus in most pre-fourth-century philosophical occurrences of κόσμος its sense is 'order', 'arrangement' or 'group'—in Diogenes perhaps 'world-*order*', but only there and in Empedocles, and then not certainly, can it be translated simply 'world', i.e. the sum of natural things with no reference to their arrangement. There is, however, a well-known doxographical statement that Pythagoras first used κόσμος to mean 'world': Aëtius ii, 1, 1 Πυθαγόρας πρῶτος ὠνόμασε τὴν τῶν ὅλων περιοχὴν κόσμον ἐκ τῆς ἐν αὐτῷ τάξεως.[1] Here the idea of 'order' is suggested; even so the ascription to Pythagoras is

[1] Compare Diog. L. viii, 48 [Pythagoras] ἀλλὰ μὴν καὶ τὸν οὐρανὸν πρῶτον ὀνομάσαι κόσμον καὶ τὴν γῆν στρογγύλην, ὡς δὲ Θεόφραστος Παρμενίδην, ὡς δὲ Ζήνων Ἡσίοδον. It is clearly only with the second discovery, the roundness of the earth, that Parmenides and Hesiod were (wrongly) associated. Diogenes' information is simply an expanded version of the statement recorded in Aëtius, whose source here was no doubt Heraclides Ponticus rather than Theophrastus.

surprising. The explanation may be that Heraclides (or conceivably some other investigator of Pythagoreanism) found in Philolaus instances of κόσμος where the word, if it did not simply mean 'world', was well on the way to doing so. Such at any rate is the case in frr. 1, 2, 6 of pseudo-Philolaus, which were probably written shortly after Aristotle and perhaps used known pronouncements of Philolaus as a model. In these fragments κόσμος is always closely associated with verbs like ἁρμόχθη, συναρμόχθη, συνέστα, and the idea of order, as Kranz saw, is not absent. If this imitates an actual practice of Philolaus then Heraclides might well have been led to consider Philolaus as a pioneer in the use of the word; and, in keeping with the Pythagorean tradition of disguising all development in their ideas, he might consequently have attributed this significant innovation to Pythagoras himself.

Two fourth-century authorities suggest very strongly that κόσμος = world is a comparatively new and technical usage: Xenophon *Mem.* I, I, II ὁ καλούμενος ὑπὸ τῶν σοφιστῶν κόσμος; Plato *Gorg.* 507E–508A οἱ σοφοί . . . καὶ τὸ ὅλον τοῦτο διὰ ταῦτα κόσμον καλοῦσιν. It has been suggested that only in Attica was this use of the word new, and that in Ionia and Italy it had been known for a century; but this distinction, which might be valid a century earlier, is less apt for a period when Athens was already the cultural centre of Greece, to which, as early as the first half of the fifth century if not before, foreign sages flocked. There is one probable conclusion from all this: that κόσμος meant 'order' (in various senses) until well on in the fifth century, when its use for 'world-order' by Empedocles, Diogenes and perhaps Philolaus led to a derived meaning, 'world'. This being so, the latter meaning is uncertain in Heraclitus fr. 30 (as Bernays saw long ago).

What then does κόσμον τόνδε–ἐποίησε imply? Gigon 56, by suggesting that κόσμον ἐποίησε is equivalent to διεκόσμησε, oversimplified the problem. κόσμος could mean either 'order' or, by extension, 'ordered whole' (that in which the order inheres): the addition of τόνδε is important, since it obviously limits the κόσμος to that which we experience. In fact *this* ordered whole would refer to what we mean by 'world', but is not identical with this because it gives priority to the idea of 'order'. Gigon suggested that the first part of the fragment is aimed either against Xenophanes (whose god directs the world, fr. 25) or against the traditional view

that a god or gods *arranged* the cosmos, cf., for example, Hesiod *Theog.* 74; *Erga* 276 (διέταξε in each instance). The latter may be the case; but the primary intention of the first part of fr. 30 is the positive assertion that this κόσμος is eternal. The need for determining the exact meaning of κόσμος is increased by the fact that it stands in apposition to πῦρ ἀείζωον. Could 'this order' (i.e. the arrangement of things in the natural world) be identified with or closely related to an ever-living fire?—For Heraclitus, theoretically it could: since, while it is plain to us that an 'order' is not a substance, a thing in its own right, but a property or epiphenomenon of other co-existing objects, it would appear quite possible, before the development not only of formal logic but also of a clear distinction between concrete and abstract reality, to assume that it is a thing in itself, and, moreover, concrete. An order, or ordered whole, would thus be a mixture of the concrete object κόσμος with the other concrete objects in which the κόσμος appears, just as in fr. 67 fire is thought of as being mixed with the things that are burned. This would be an extreme view: the κόσμον ἀοιδῆς, for example, could hardly be thought of as concrete; but here we are making the exact distinction between concrete and abstract which is inapplicable to Heraclitus. Could it not be said, then, that this order which we see in things is eternal; that it is mixed with all things *just as* fire is mixed with the things it burns? No: for ἁπτόμενον μέτρα κτλ. shows that no simple simile from fire in general is involved, that this fire is either totally or partly coincident with the κόσμος. Could the order be fire itself, which we know mixes with things not fire? This is attractive: the idea behind κόσμος would be similar to that of λόγος—a constituent formula which applies to all things, which inheres in and actually is a part of all things, and therefore could be treated as concrete. The characterization as fire would be made because (as, for example, Burnet 145 clearly stated) fire is both *motive* and *regulated*: it consumes fuel and emits smoke, and its own essence displays that regular change which Heraclitus saw in the events of nature. But fire cannot be *identified* with the formula of underlying identity of opposites, based upon regularity of exchange, because it has or displays that formula itself, and is qualified as ἁπτόμενον μέτρα καὶ ἀποσβεννύμενον μέτρα.

I believe that the idea of fire as the regulating element in all things is implicit in this fragment, but that it is a secondary one. That κόσμον τόνδε is more than the order of things, that it is things + order

(from which they cannot, however, be dissociated) is suggested by the close connexion which the fragment probably had with fr. 31. This connexion is implied by the words with which Clement connects his quotations of the two fragments, μηνύει τὰ ἐπιφερόμενα. Now while (like Zeller ZN 847 n. 2) I would not go so far as Reinhardt (*Hermes* 77 (1942) 10) in asserting that this means that fr. 31 followed *directly* upon fr. 30, ἐπιφερόμενα nevertheless suggests that in Clement's source fr. 31 was closely connected with fr. 30, and this in its turn suggests (though there is plenty of room for doubt) what is certainly possible, that the two sayings belonged to the same context in Heraclitus. τὰ ἐπιφερόμενα is not a precise phrase: but it is unlikely at any rate to mean 'the following, i.e. what I, Clement, now quote', the Greek for which is τάδε or ταῦτα. Fr. 31 is concerned with cosmological changes described as πυρὸς τροπαί: fire, then, is there regarded as the origin of the other primary forms of matter, namely, sea and earth. Therefore it is fair to regard πῦρ in fr. 30 as an actual constituent of things. This tells against one of the most persuasive interpretations of the fragment, advanced by Zeller, Burnet and Cherniss, according to which the ever-living fire is simply a symbol for the κόσμος. Nevertheless, there is some truth in this interpretation, for since this κόσμος *is* fire, *as such* it behaves like fire, i.e. it undergoes regulated changes. The fire in question is not simply that which burns in the hearth, because this has no claim to be more important or more primary than sea or earth. The cosmological fire must be thought of primarily as αἰθήρ, that purer kind which in popular thought fills the upper region of the heavens and is considered to be divine and immortal, to be the essence of the heavenly bodies, and according to one view the place of favoured or pure souls. The cosmological changes of fr. 31 commence with that from fire to sea: half sea is being replenished from, half of it is turning back into fire. This last process can hardly be any other than that known in the doxographers as ἀναθυμίασις, which must be the common phenomenon of evaporation. Evaporated sea moves upwards into the sky—to feed the heavenly bodies, to fill their σκάφαι—and so the fire into which it changes must be αἰθήρ.

Thus the πῦρ ἀείζωον probably refers primarily to αἰθήρ, the purest fire which is the source of cosmological changes; and since the πῦρ ἀείζωον stands in apposition to κόσμον τόνδε, the κόσμος must itself be closely related to αἰθήρ; it is things + order (ἁπτόμενον

μέτρα κτλ.). Thus there has always existed that αἰθήρ which is the material of natural phenomena and that arrangement by which part of it is always sea and part always earth. It is called 'ever-living' because it is divine in the sense of being immortal (cf. ἀθάνατον καὶ ἀνώλεθρον, predicated by Aristotle of the ἀρχή of Anaximander and others), and because, unlike terrestrial fire, it is never totally extinguished: part of it is always extinguishing itself (note the present participles), but an equivalent part (so much is implied by the syntactical parallelism of μέτρα...μέτρα, as well as by the content of the word itself) is always kindling itself; the participles are probably middle, as Diels held, μέτρα...μέτρα being internal accusatives. The kindling and extinction is shown to be quite literal by fr. 31: extinction means changing into sea, kindling means changing back from sea into fire by means of the moist evaporation on which fire was widely believed to feed—though this feeding itself consisted of 'catching fire'.

Thus the relationship of κόσμον τόνδε to πῦρ ἀείζωον becomes, after all, one of simple predication: the natural world and the order in it (otherwise expressed as the Logos) is an ever-living fire. The indefinite article is, I think, required in a correct translation. In πυρὸς τροπαί the fire is *aither* in general: but πῦρ can mean *a* fire as well as the flames that burn there, though the distinction is not normally clearly drawn: cf., for example, *Il.* IX, 220 ἐν πυρὶ βάλλε θυηλάς. The κόσμος is equated with a fire like a huge bonfire, of which parts are temporarily dead, parts are not yet alight. This is important because it helps to explain how in fr. 31 a portion of sea can still be counted as 'fire': it is a part of the bonfire which is as yet unkindled, is not yet actually 'afire'. It also removes the partial anomaly of πῦρ ἀείζωον being ἀποσβεννύμενον μέτρα, that is, *not* ever-living in its parts; though the main point is that the κόσμος as a whole can be called ever-living because its entity is preserved unchanged while its parts undergo the 'death' of change into water and earth (cf. fr. 36 and fr. 76D, developed from it; the latter discussed under fr. 31).

The description applied in this fragment to the ever-living fire, that it is ἁπτόμενον μέτρα καὶ ἀποσβεννύμενον μέτρα, was taken in antiquity as an assertion of periodic changes, μέτρα being treated temporally and not quantitatively. The same ambiguity is present in fr. 94, but in fr. 30 it is clearer that the quantitative interpretation is correct. (i) Although, if μέτρα...μέτρα are periodic, ἀείζωον

could still retain some meaning by the assumption that the fire is never *quite* extinguished, that epithet clearly suggests something very different—a more or less constant and inextinguishable fire, not one which suffers violent fluctuations. (ii) In fr. 31, which (as has been seen) probably followed very closely if not directly upon fr. 30, the verb μετρέεται occurs of quantitative measures. (iii) Fr. 31 gives a detailed explanation of the process of 'kindling' and 'extinguishing' as the 'turnings' of fire—that is, the meteorological changes of the archetypal form of matter, from fire to sea to earth and back again. These changes are going on, in one place or another, all the time; but they always remain balanced, and the total quantity of fire, sea, or earth remains constant. If this were not so the κόσμος or world-order of men's experience would be destroyed. This balance is expressed in fr. 30 by μέτρα...μέτρα: the balance extends also to temporal periods (e.g. the seasons, length of night and day, etc.: cf. fr. 94), but these are not relevant in fr. 31, which deals with the type and the quantity of fire's changes. Further, any periodic changes which Heraclitus did postulate were partial ones, applying only to one or other part at a time of the κόσμος—which would indeed have been destroyed as such if these changes had been total in extent. It was *Theophrastus* who (perhaps following Aristotle) evidently gave the temporal interpretation to the last part of fr. 30: Φυσ. δόξαι fr. 1 (DK 22A5) ποιεῖ δὲ καὶ τάξιν τινὰ καὶ χρόνον ὡρισμένον τῆς τοῦ κόσμου μεταβολῆς κατά τινα εἱμαρμένην ἀνάγκην. This was taken up by the Stoics and developed into their ἐκπύρωσις-account, which is combined with the Theophrastean interpretation of ἀποσβεννύμενον μέτρα at Aëtius I, 3, 11: ἐκ πυρὸς γὰρ τὰ πάντα γίνεσθαι καὶ εἰς πῦρ πάντα τελευτᾶν λέγουσι [sc. Heraclitus and Hippasus]· τούτου δὲ κατασβεννυμένου κοσμοποιεῖσθαι τὰ πάντα· πρῶτον μὲν γὰρ τὸ παχυμερέστατον αὐτοῦ εἰς αὑτὸ συστελλόμενον γῆ γίγνεται, ἔπειτα ἀναχαλωμένην τὴν γῆν ὑπὸ τοῦ πυρὸς φύσει [χύσει coni. Döhner] ὕδωρ ἀποτελεῖσθαι, ἀναθυμιώμενον δὲ ἀέρα γίγνεσθαι. πάλιν δὲ τὸν κόσμον καὶ τὰ σώματα πάντα ὑπὸ τοῦ πυρὸς ἀναλοῦσθαι ἐν τῇ ἐκπυρώσει. The details of this cosmogony are clearly Stoic: the Stoics too used the πύκνωσις–μάνωσις mechanism of change popularized by Theophrastus. Theophrastus, in fact, was responsible for an interpretation of Heraclitus' physics which the Stoics developed but little. He was evidently misled by fr. 31: the πυρὸς τροπαί he took to be primarily *cosmogonical*

changes, not cosmological ones; this done it was inevitable that he should treat the μέτρα of fr. 30 as referring to recurrent periods of world-formation and world-destruction (processes which he attributed, also wrongly, to Anaximander, partly on the analogy of Empedocles). World-destruction was a reversion to fire according to Aristotle's principle (*Met.* A 3, 983b8) that things pass away into that from which they have come into being. Fire, of course, was assumed to be ἀρχή, on the basis chiefly of frr. 30 and 31, by Aristotle *Met.* A 3, 984a7 and Theophrastus Φυσ. δόξαι fr. 1. Theophrastus took fr. 31 to describe cosmogonical changes because, following Aristotle again, he assumed that all the Presocratics gave much attention to describing a *cosmogony*: cf., for example, Aristotle *de caelo* A 10, 279b12 γενόμενον μὲν οὖν ἅπαντες εἶναί φασιν [sc. τὸν οὐρανόν]. Fr. 31 could be interpreted as cosmogonical by anyone who did not understand Heraclitus; in fact, in some respects it coincided with what Theophrastus accepted as the commonest Presocratic cosmogonical pattern—sea condensing into earth, etc. (this pattern being based, of course, upon the observed meteorological changes in nature). His account of this is no doubt closely reproduced at Diog. L. IX, 8–9, where the sentence quoted above from Theophrastus fr. 1 is paraphrased (and perhaps supplemented) as follows: γεννᾶσθαί τε αὐτὸν [sc. τὸν κόσμον] ἐκ πυρὸς καὶ πάλιν ἐκπυροῦσθαι κατά τινας περιόδους ἐναλλὰξ τὸν σύμπαντα αἰῶνα· τοῦτο δὲ γίνεσθαι καθ' εἱμαρμένην. Thus the expression ἐκπυροῦσθαι (and hence perhaps ἐκπύρωσις) may well have been used of Heraclitus by Theophrastus, before the Stoics; that there is no Stoic influence in this passage of Diogenes is shown by the fact that in the cosmogony that follows no mention is made of air as in the Aëtius passage. The insertion of air into Heraclitus' 'cosmogony', against the evidence of fr. 31, was presumably a Stoic innovation. For Theophrastus' further developments of his cosmogonical interpretation see under fr. 31, pp. 327ff.

The theory of an ἐκπύρωσις in Heraclitus was perhaps directly derived by Theophrastus (like most of his historical judgements) from Aristotle: *de caelo* A 10, 279b12 γενόμενον μὲν οὖν ἅπαντες εἶναί φασιν [sc. τὸν οὐρανόν], ἀλλὰ γενόμενον οἱ μὲν ἀΐδιον, οἱ δὲ φθαρτὸν ὥσπερ ὁτιοῦν ἄλλο τῶν φύσει συνισταμένων, οἱ δὲ ἐναλλὰξ ὁτὲ μὲν οὕτως ὁτὲ δὲ ἄλλως ἔχειν φθειρόμενον, καὶ τοῦτο ἀεὶ διατελεῖν οὕτως, ὥσπερ Ἐμπεδοκλῆς ὁ Ἀκραγαντῖνος καὶ Ἡράκλειτος ὁ

Ἐφέσιος. Notice that Aristotle here ignores the statement in fr. 30 that the κόσμος has always existed; his reason for this appears in his further comment at 280a12: τὸ δ' ἐναλλὰξ συνιστάναι καὶ διαλύειν οὐθὲν ἀλλοιότερον ποιεῖν ἐστὶν ἢ τὸ κατασκευάζειν αὐτὸν ἀίδιον μὲν ἀλλὰ μεταβάλλοντα τὴν μορφήν, ὥσπερ εἴ τις ἐκ παιδὸς ἄνδρα γινόμενον καὶ ἐξ ἀνδρὸς παῖδα ὁτὲ μὲν φθείρεσθαι ὁτὲ δ' εἶναι οἴοιτο· δῆλον γὰρ ὅτι καὶ εἰς ἄλληλα τῶν στοιχείων συνιόντων οὐχ ἡ τυχοῦσα τάξις γίγνεται καὶ σύστασις, ἀλλ' ἡ αὐτή, ἄλλως τε καὶ κατὰ τοὺς τοῦτον τὸν λόγον εἰρηκότας, οἳ τῆς διαθέσεως ἑκατέρας αἰτιῶνται τὸ ἐναντίον. Here Aristotle makes exactly the point which was made by Clement, that one must distinguish between changes of arrangement within the whole world of being, and changes of being itself; Empedocles and Heraclitus were really talking about the former state of affairs. Aristotle implies that they confused it with the latter, for οἱ δ' ἐναλλὰξ κτλ. means 'and others say that it (the first heaven) is at one time as it is now, at another time otherwise and in process of destruction, and this continues always in this way—for example Empedocles and Heraclitus'. Now Empedocles, with his alternation from the reign of Love to that of Strife, is a good example of the compromise view which Aristotle wished to describe; but Heraclitus presents no such obvious alternation *unless* Aristotle understood him to mean that the world is periodically reduced to fire in an ecpyrosis. Burnet 158 took Aristotle's comparison of the changes between man and boy, in the second *de caelo* passage quoted above, to imply that he was really referring to the parallel between a 'great year' (of soul-fire) and the human generation: but this conjecture is absolutely unsupported. His further attempt to eliminate an ecpyrosis-interpretation from Aristotle by maintaining that the alternations of the οὐρανός referred to Empedocles and Heraclitus concern not the whole world but only the first heaven (pp. 158 n. 1 and 159) unfortunately involves a neglect of the context, in which οὐρανός without question refers (as often in this treatise: see the definitions at A 9, 278b11) to the whole sum of things enclosed by the outer heaven. It is, however, just conceivable that Aristotle was thinking of some period applied by Heraclitus to a part only of the cosmos—for example, a period in which fire remains unchanged as such, before undergoing its τροπαί (fr. 31), or a Great Winter and a Great Summer in the sense of Aristotle *Meteor.* A 14, 352a30, i.e. a long-term excess of wet or heat in one

part of the world or another, which, however, is eventually balanced by a corresponding deficiency; but we have no definite knowledge of such periods, and the context in Aristotle seems to exclude such partial changes. Taken literally, indeed, *de caelo* 279b12ff. points quite clearly to the fact that Aristotle believed in an ecpyrosis in Heraclitus: this conclusion cannot, I believe, be avoided, and it is one which the ancient commentators on Aristotle, influenced of course by their knowledge of Theophrastus, accepted without question. This is surprising, partly because it is fairly plain from the fragments that Heraclitus did not postulate any such absorption by fire (see also pp. 335ff. below), partly because there is no other reference to Heraclitus in Aristotle where an ecpyrosis (in the Stoic sense, as opposed to its more limited meaning at *Meteor.* 342b2) is envisaged. Of course it is very possible that Aristotle misinterpreted Heraclitus in this as in other matters, but that he had no other occasion for displaying this misinterpretation; though he may have passed it on to Theophrastus. Yet it is tempting to think that he did not mean to attribute cosmic periods to Heraclitus, but was perhaps led to add Heraclitus' name to that of Empedocles by his familiarity with Plato's presumably well-known comparison at *Sophist* 242D, E: 'Certain Ionian and Sicilian Muses [that is, Heraclitus and Empedocles respectively] agreed that...it is safest to say that reality is many and one, but is kept together by enmity and friendship. For "being carried apart it is always carried together" say the stricter of the Muses [sc. Heraclitus], but the gentler ones [Empedocles] relaxed the need for this always to be so, and say that in turn the whole is first one...and then many.' In reality this passage quite clearly states that Heraclitus did not believe in any ἐναλλάξ changes of the cosmos; but the connexion with Empedocles might be remembered for longer than the important distinction between them: see (ii) on p. 322f. However, this is neither a certain nor an entirely satisfactory solution. In the case of the other passage of Aristotle which used to be thought (cf. Zeller ZN 868) to prove that he attributed an ecpyrosis to Heraclitus, it can be shown for certain that no such attribution is intended: *Phys.* Γ 5, 205a1 ὅλως γὰρ καὶ χωρὶς τοῦ ἄπειρον εἶναί τι αὐτῶν, ἀδύνατον τὸ πᾶν, κἂν ᾖ πεπερασμένον, ἢ εἶναι ἢ γίγνεσθαι ἕν τι αὐτῶν, ὥσπερ Ἡράκλειτός φησιν ἅπαντα γίνεσθαί ποτε πῦρ.... πάντα γὰρ μεταβάλλει ἐξ ἐναντίου εἰς ἐναντίον, οἷον ἐκ θερμοῦ εἰς ψυχρόν. Cherniss, 29 n. 108, has shown that in the sentence ἅπαντα

γίνεσθαί ποτε πῦρ the subject is πῦρ and not ἅπαντα: the whole passage is an assertion that no single substance (whether finite or infinite, an element or something other than the elements) can either be or become the world, because all change is between opposites and therefore a multiple world must be composed of, or originate from, at least two ἀρχαί (i.e. one pair of opposites). The instance of Heraclitus is introduced to illustrate, especially, the theory that one substance *becomes* (as opposed to *is*) all things: this is indicated by γίγνεσθαι...γίνεσθαί. The generally accepted interpretation, 'as Heraclitus says that all things at some time become fire', in the sense of an ecpyrosis, would be quite irrelevant to Aristotle's argument; he is not interested in things becoming one out of many, but in being or becoming many out of one—it is this which is stated by the monistic cosmogonical theories. Therefore there is no question here of a reference to an ecpyrosis: ποτε means not 'at some one time' but 'at some time or other, sooner or later', and the reference is obviously to the πυρὸς τροπαί in fr. 31 (as Burnet, 159 n. 3, saw, though without anticipating Cherniss' positive interpretation). Cherniss is unnecessarily cautious over this reference to physical changes; the present tense of γίνεσθαι strongly suggests that Aristotle regarded fire's becoming of all things as continuous, as, indeed, for Heraclitus it was: the point is not merely that fire turns into water and earth (so it did for Aristotle, as Cherniss remarked) but that it is somehow regarded as being the source of those substances. The plurality of this world owes its existence to the changes of a single substance—this for Aristotle was the vicious assumption.

Whatever Aristotle's view, Theophrastus, as has been seen, certainly assigned an ecpyrosis to Heraclitus. There are two slight but noticeable indications that Theophrastus developed this interpretation along lines suggested by the *de caelo*. (i) In the Theophrastean account in Diog. L. IX, 8 (see p. 319) occur the words καὶ πάλιν ἐκπυροῦσθαι κατά τινας περιόδους ἐναλλὰξ τὸν σύμπαντα αἰῶνα: here the far from common ἐναλλάξ points to *de caelo* A 10, 279b14 οἱ δὲ ἐναλλὰξ κτλ. The word does not occur in Simplicius' direct version of Theophrastus. Both versions mention εἱμαρμένη or εἱμαρμένη ἀνάγκη and are presumably connected; Simplicius in general is more reliable, but an isolated expression may well have been preserved by Diogenes and not by Simplicius. (ii) In Aristotle's comment on the view attributed to Empedocles and Heraclitus, at

de caelo A 10, 280a18, he describes the holders of this view as τοὺς τοῦτον τὸν λόγον εἰρηκότας, οἳ τῆς διαθέσεως ἑκατέρας αἰτιῶνται τὸ ἐναντίον. Now Heraclitus as well as Empedocles is, formally at any rate, signified here. It is clear enough that the latter 'made the contrary responsible for each disposition', i.e. made Love or Strife responsible for the opposed condition of things; but how can the same be said of Heraclitus? There is no other clue in Aristotle to what he had in mind here. It is probable that he was thinking particularly of Empedocles and temporarily neglected Heraclitus; but note that Theophrastus, at any rate according to Diog. L. IX 8–9, mentioned two oppositions assigned by Heraclitus to the different conditions of the cosmos—ἔρις and the ὁδὸς ἄνω κάτω on the one hand (world-generation) and εἰρήνη on the other (the process towards ἐκπύρωσις, or world-destruction). There is no evidence that Aristotle ascribed these concepts to Heraclitus: indeed *Eth. Nic.* Θ 2, 1155b6 (= fr. 8D; see pp. 220, 241) suggests if anything that ἔρις is a permanent condition of things. Again it looks as though Theophrastus, puzzled by Aristotle's meaning in the *de caelo* passage, supplemented it as best he could from his knowledge of Heraclitus' sayings; though the possibility cannot be dismissed that he got his application of ἔρις–εἰρήνη from Aristotle privately or in unrecorded lectures.

Whether Aristotle or Theophrastus was the first to attribute a recurrent ἐκπύρωσις to Heraclitus, there is no doubt whatever what was the cause of this interpretation: primarily fr. 31, which *could* be taken cosmogonically and naturally *would* be by all who, like Aristotle and Theophrastus, regarded all φυσικοί as cosmogonists. So the last part of fr. 30 would be interpreted temporally, 'kindling in periods and being extinguished in periods'. Simplicius in his comment on the *de caelo* passage certainly based the ἐκπύρωσις-interpretation on this phrase (see p. 308); but he was possibly using a Stoic source here and provides very indirect evidence for Aristotle's motives. I have already suggested that Aristotle was led by his familiarity with Plato's comparison between Empedocles and Heraclitus to group the two together almost unconsciously, when it came to a discussion of the relation between ἕν and πολλά (or ἀρχή and κόσμος). Admittedly this would be very careless of him, for Plato clearly distinguishes between the periodicity of Empedocles and the simultaneity of Heraclitus: but Aristotle *was* careless over just such things. In any

case Aristotle laid the foundation, whether intentionally or not, for the ἐκπύρωσις-interpretation of Heraclitus which was developed by Theophrastus and refined by the Stoics.

Plato *Sophist* 242D, E is one of our strongest testimonies that Heraclitus did not, in fact, believe in a periodical absorption of all things into fire, and that Aristotle (possibly), Theophrastus (certainly), and the ancient doxographical tradition, were (understandably) misled. The points in favour of and against an ἐκπύρωσις for Heraclitus are further summarized on pp. 335 ff.[1]

[1] I am now inclined to be persuaded by Vlastos's argument (*AJP* 76 (1955) 311) that misinterpretation of Heraclitus's Great-Year doctrine (pp. 300ff.) rather than misunderstanding of Plato (p. 321) is likely to have been the chief factor in Aristotle's attribution to Heraclitus of a periodical cosmic destruction.

31

(21 + 23B)

Clement *Stromateis* v, 104, 3 (II, 396 Stählin) [following fr. 30] ὅτι δὲ καὶ γενητὸν καὶ φθαρτὸν αὐτὸν εἶναι [sc. τὸν κόσμον] ἐδογμάτιζεν, μηνύει τὰ ἐπιφερόμενα· **πυρὸς τροπαί· πρῶτον θάλασσα, θαλάσσης δὲ τὸ μὲν ἥμισυ γῆ τὸ δὲ ἥμισυ πρηστήρ.** δυνάμει γὰρ λέγει ὅτι τὸ[1] πῦρ ὑπὸ τοῦ διοικοῦντος λόγου καὶ θεοῦ τὰ σύμπαντα δι' ἀέρος τρέπεται εἰς ὑγρὸν τὸ ὡς σπέρμα τῆς διακοσμήσεως, ὃ καλεῖ θάλασσαν, ἐκ δὲ τούτου αὖθις γίνεται γῆ καὶ οὐρανὸς καὶ τὰ ἐμπεριεχόμενα. ὅπως δὲ πάλιν ἀναλαμβάνεται καὶ ἐκπυροῦται σαφῶς διὰ τούτων δηλοῖ· ⟨γῆ⟩[2] **θάλασσα διαχέεται, καὶ μετρέεται εἰς τὸν αὐτὸν λόγον ὁκοῖος πρόσθεν[3] ἦν ἢ γενέσθαι γῆ.**[4] ὁμοίως καὶ περὶ τῶν ἄλλων στοιχείων τὰ αὐτά. παραπλήσια τούτῳ καὶ οἱ ἐλλογιμώτατοι τῶν Στωικῶν δογματίζουσι περί τε ἐκπυρώσεως διαλαμβάνοντες καὶ κόσμου διοικήσεως κτλ.

1 τὸ Eusebius *P.E.* XIII, 13, 31, om. Clem. cod. 2 ⟨γῆ⟩ Kranz et al.
3 πρόσθεν Euseb., πρῶτον Clem. 4 γῆ om. Euseb.

[*Following fr.* 30] *And that he pronounced the opinion that it* [*sc. the world*] *is both created and destructible, the following words tell us:* Fire's changes: first sea, and of sea the half is earth, the half lightning-flash. *For he says in effect that fire, by the Logos and god which arranges all things, is turned by way of air into moisture, the moisture which acts as seed of the world-forming process and which he calls 'sea'; then, out of this, earth comes into being and heaven and everything enclosed by it. That these things are taken up again and turned into fire he shows clearly with these words:* ⟨Earth⟩ is dispersed as sea [*'sea is dispersed', Clement understood*] and is measured so as to form the same proportion as existed before it became earth. *Similarly too about the other elements the same things happen. Opinions kindred to those of Heraclitus are pronounced also by the most renowned of the Stoics, with their beliefs about things turning into fire and the arrangement of the world.*

It has already been suggested on p. 316 above that Clement's words μηνύει τὰ ἐπιφερόμενα imply that fr. 31 came, in his edition at any

rate, very closely if not immediately after fr. 30. This is not an absolute indication that the two sayings belonged to the same original context in Heraclitus, but, taking into account the fact that each is concerned with cosmic fire, this is highly probable (so, for example, Deichgräber *Rh.M.* 89 (1940) 49). In fr. 30 the present order of things is said to be eternal, and to be an ever-living fire kindling in measures and going out in measures. The first words of fr. 31, πυρὸς τροπαί, explain what this 'kindling' and 'extinguishing' involve: fire turns into sea (and so is extinguished) and sea turns into earth; earth turns back to sea, and then sea is kindled again into fire. The 'measures' of fr. 30 are reflected three times in fr. 31, in the words ἥμισυ . . . ἥμισυ, μετρέεται, and ἐς τὸν αὐτὸν λόγον κτλ.: we learn from them that each mutation between the three main world-masses, fire sea and earth, is balanced by an equivalent mutation in the other direction; or rather that the sums of all such mutations remain balanced. Thus Deichgräber, followed by Reinhardt, *Hermes* 77 (1942) 10, is justified in saying that fr. 31 gives the solution to the paradox contained in the latter part of fr. 30: amongst other things it tells us how the world can be described as fire (or *a* fire). It is because sea and earth, its main non-fiery constituents, are but 'turnings' of fire, i.e. what fire turns into. This is not to say that there was ever a time when part of fire had *not* turned into sea and earth, for 'this order always was, is, and shall be'; it means that there is in nature a continual process between the three main world-masses, and that of these three fire is considered to be the chief, and the motive point of the process—doubtless because it is ἀσωματώτατον καὶ ῥέον ἀεί as Aristotle said (*de an.* A 2, 405a27), and thus more kinetic; and also since, of the two extremes of the process, fire and earth (which alone could be regarded as potentially separable from the others, since sea suffers changes simultaneously in two directions), earth was too solid and intractable to be considered the ultimate source. In addition, although Heraclitus does not emulate his predecessors in trying to explain an intuited unity in the cosmos by positing a single originative material, he felt that one form of material *was* prior in importance, if not in time, to the others: and he was doubtless attracted towards fire, as Cherniss and others have suggested, because it most clearly exemplifies the regular process of exchanges (fuel for flame, flame for smoke and heat) and the consequent stability (of the flame or the cosmos) which for him were

an essential characteristic of the physical world. The celestial or aitherial fire presumably possessed these qualities to a pre-eminent degree.

Clement, however, evidently interpreted fr. 31 very differently. His source here (cf. the concluding words quoted) may have been a Stoic one; and the Stoic interpretation of Heraclitus' theory of natural process was itself dependent upon Theophrastus. Theophrastus, who, like Aristotle, treated the Presocratic φυσικοί (except Parmenides) as intent upon generating a plural world out of a primal unity, naturally expected to find a cosmogony in Heraclitus too. In fact, fr. 30 shows that for Heraclitus there could be no cosmogony, but fr. 31 could be taken in a cosmogonical sense (just as μέτρα in fr. 30 could be interpreted *temporally* if the rest of the fragment were ignored), and it was so taken by Theophrastus. The 'turnings of fire' are interpreted as stages in world-formation (but continued in the cosmological process, p. 106f.): the world was then 'kindled' or reabsorbed into fire, after the lapse of certain μέτρα (fr. 30), interpreted as periods; the cycle then begins anew. Thus Heraclitus is made to subscribe to the theory of successive single worlds which was attributed by Theophrastus to many of the earlier monists (including Anaximander) on the false analogy of Empedocles' successive states of the sphere and the Atomists' postulation of an infinite number of worlds perpetually coming-to-be and passing away (because matter and space were infinite). This cosmogonical and periodic interpretation is briefly outlined in Theophr. *Phys. op.* fr. 1 *ap.* Simplicius *in Phys.* p. 23 Diels (of Heraclitus and Hippasus): καὶ ἐκ πυρὸς ποιοῦσι τὰ ὄντα πυκνώσει καὶ μανώσει καὶ διαλύουσι πάλιν εἰς πῦρ ὡς ταύτης μιᾶς οὔσης φύσεως τῆς ὑποκειμένης· πυρὸς γὰρ ἀμοιβὴν εἶναί φησιν Ἡ. πάντα. The mention of 'thickening and thinning' is probably due to διαχέεται in fr. 31. That Theophrastus' cosmogonical interpretation rests in part on this fragment is indicated by Diogenes' detailed account, set out overleaf against some of the passages upon which it depends. His ecpyrosis-interpretation, on the other hand, is based primarily upon fr. 30 (μέτρα) and fr. 90. Thus just as Theophrastus perverted the sense of πόλεμος–ἔρις in Heraclitus by making it a motive force in cosmogony, and by confusing it with Empedocles' Strife in opposing it to 'agreement and peace' (for in Heraclitus the ἁρμονίη is itself παλίντονος), so he perverted fr. 31 by making it apply to

Diog. L. IX, 8–9	Source material
τῶν δὲ ἐναντίων τὸ μὲν ἐπὶ τὴν γένεσιν ἄγον καλεῖσθαι πόλεμον καὶ ἔριν, τὸ δὲ ἐπὶ τὴν ἐκπύρωσιν ὁμολογίαν καὶ εἰρήνην.	fr. 53 πόλεμος πάντων μὲν πατήρ ἐστι . . . fr. 80 γινόμενα πάντα κατ' ἔριν καὶ χρεών. fr. 67 . . . πόλεμος εἰρήνη . . . Cf. ἁρμονίη in fr. 51? (Confusion with Empedocles' Νεῖκος and Φιλότης-'Αρμονίη)
καὶ τὴν μεταβολὴν ὁδὸν ἄνω κάτω, τόν τε κόσμον γίνεσθαι κατ' αὐτήν.	fr. 60 ὁδὸς ἄνω κάτω μία καὶ ὡυτή. Cf. *de victu* I, 5 χωρεῖ δὲ πάντα . . . ἄνω καὶ κάτω ἀμειβόμενα.
πυκνούμενον γὰρ τὸ πῦρ ἐξυγραίνεσθαι, συνιστάμενόν τε γίνεσθαι ὕδωρ, πηγνύμενον δὲ τὸ ὕδωρ εἰς γῆν τρέπεσθαι·	fr. 31 πυρὸς τροπαί· πρῶτον θάλασσα, θαλάσσης δὲ τὸ μὲν ἥμισυ γῆ...
καὶ ταύτην ὁδὸν ἐπὶ τὸ κάτω εἶναι. πάλιν τε αὖ τὴν γῆν χεῖσθαι, ἐξ ἧς τὸ ὕδωρ γίνεσθαι, ἐκ δὲ τούτου τὰ λοιπά, σχεδὸν πάντα ἐπὶ τὴν ἀναθυμίασιν ἀνάγων τὴν ἀπὸ τῆς θαλάττης· αὐτὴ δέ ἐστιν ἡ ἐπὶ τὸ ἄνω ὁδός.	⟨γῆ⟩ θάλασσα διαχέεται θαλάσσης . . . τὸ δὲ ἥμισυ πρηστήρ (?) Aristotle *de an.* A 2, 405a 25 . . . τὴν ἀναθυμίασιν ἐξ ἧς τἆλλα συνίστησιν.

world-formation as well as to the weather-process. His application of the terms 'way up' and 'way down' (see p. 106f.) is equally unfounded; fr. 60, in which Heraclitus uses the terms, seems from its form to be a purely general statement intended as an illustration of the coincidence of opposites. The specific physical application of those terms would not, it is true, be unsuitable, since fire-sea-earth *is* a downward movement, and the opposite process an upward one; but in any case 'the way up and down' would refer to constant meteorological or cosmological changes, and not to cosmogonical ones.

That the Stoics accepted Theophrastus' extension of Heraclitus fr. 31 as a legitimate one, and developed out of it their own cosmogony, is shown most clearly by the description of Zeno's cosmogony given by Arius Didymus fr. 38 (Diels *Doxographi* 469): τοιαύτην δὲ δεήσει εἶναι ἐν περιόδῳ τὴν τοῦ ὅλου διακόσμησιν ἐκ τῆς οὐσίας.

ὅταν ἐκ πυρὸς τροπὴ εἰς ὕδωρ δι' ἀέρος γένηται τὸ μέν τι ὑφίστασθαι καὶ γῆν συνίστασθαι, ἐκ τοῦ λοιποῦ δὲ τὸ μὲν διαμένειν ὕδωρ, ἐκ δὲ τοῦ ἀτμιζομένου ἀέρα γίνεσθαι, ἔκ τινος δὲ τοῦ ἀέρος πῦρ ἐξάπτειν. This scheme differs from that of Theophrastus by the inclusion of air (which was not regarded as a world-mass by Heraclitus, and which Theophrastus evidently did not attempt to attribute to him). There were, of course, some non-Heraclitean elements in Stoic cosmogony—the concept of fire as σπέρμα, developed by Zeno (Diog. L. VII, 135–6), and that of the τόνος which binds things together; this last peculiar, perhaps, to Cleanthes, and possibly developed by him out of the Heraclitean παλίντονος ἁρμονίη. It is only natural, then, that Stoic accounts of Heraclitus' physical theories should be made to fit their own developments: a good example (in addition to Clement's comments on fr. 31 itself) is Aëtius' Stoic-influenced account of Heraclitus, I, 3, 11, quoted on p. 318.

To examine the fragment more closely: τροπαί (as is shown by Snell, *Hermes* 61 (1926) 359 n. 1) is invariably used in pre-fourth-century contexts of sudden and complete (as opposed to gradual and minute) changes. It is the word used of the reversals of the sun's course on the ecliptic (and certainly cannot describe the revolutions of heavenly bodies). In the present context the significance of this meaning is simply that Heraclitus ignores (except for διαχέεται) the processes by which the complete changes take place, and concentrates on the main terms, fire, sea and earth. The same concern with the result rather than the method of change is revealed in ἀνταμοιβή and μεταπίπτειν (frr. 90, 88), and the metaphor of life and death in fr. 36. In the case of fr. 88 it is change between opposites which is thus synoptically described; the physical changes outlined in fr. 31 cannot, however, be directly resolved into that kind of change, since three and not two terms are involved. Admittedly, in fr. 90 fire is exchanged for all things, and so fire in fr. 31 might properly be set against sea *and* earth (which are derived from it)—this is the type of analysis which Gigon stressed so heavily in his *Untersuchungen*, though it is not, I believe, a particularly significant one: he, of course, used it to justify his acceptance of an ecpyrosis. Earth, like sea, is described as a 'turning' of fire, and not of its own immediate origin, sea; and so the three terms in the process are not equal. Fire is set against, and motivates the changes into, the other two. Nevertheless,

the principle of the coincidence or underlying unity of opposites is not fully relevant in this situation; rather the unity of the whole physical cosmos *regarded statically*, as it is in the first part of fr. 31, is due to the fact that it is all, essentially, fire; parts of it are extinguished to form sea and earth, other parts are being rekindled into fire. A dynamic view is expressed in the conclusion of fr. 30: the preservation of the μέτρα between the main parts of the cosmos throughout their changes supplies the unity of a constant and all-pervading formula akin to the Logos, though not necessarily operating between opposites. Fr. 31 seems to set out to outline *in turn* the transformations of fire, but it soon diverges from this: for sea, the middle term of change, is described as being half earth and, by anticipation, half πρηστήρ. Naturally Heraclitus means that one-half of sea *can be regarded as* turning to earth (and replenished by earth), the other half as turning to πρηστήρ (and replenished by fire): the total remains unchanged as sea. About πρηστήρ there has been much fruitless discussion. It is derived from the verbal root πρηθ-, which developed (perhaps from an original meaning 'leap' or 'dart') two quite different senses, 'burn' (as in πίμπρημι, the oblique tenses of which are supplied by πρήθω) and 'blow' (πρήθω): the compound ἐμπρήθω, for example, can have either sense. In technical meteorological language a πρηστήρ is something which combines both these senses, i.e. 'a hurricane or waterspout attended with lightning' as LSJ puts it, citing Aristotle *Meteor.* Γ 1, 371a16; Epicurus *Ep. ad Pyth.* 104 (p. 47 Usener); Aëtius III, 3; Lucretius VI, 424f., etc.: cf. Seneca *Qu. nat.* V, 13, 3. Burnet 149 accepted 'fiery water-spout' as the meaning in the fragment, and thought that it explained the passage of fire to sea; Diels, *Herakleitos*[2] 24, pictured a more plausible phenomenon ('Glutwind' or 'Gluthauch') and made it explain the reverse process. Now it is most improbable that Heraclitus picked on what must, after all, be a rather uncommon meteorological event (not of course a 'fiery waterspout', which is absurd: it is strangely accepted by Cherniss, *AJP* 56 (1935) 414f., and is presumably a translation of 'igneus turbo' in Seneca *loc. cit.*), and supposed that it was the regular means of transference between two of the main world-masses; or even that he did not suppose this, but merely used the name as a symbol for that kind of change. Indeed, an examination of the rest of the fragment suggests that no intermediary process is meant (and therefore πρηστήρ is not an

exhalation, as Gigon thought, though it is here the result of an exhalation). πρηστήρ obviously specifies one of the τροπαί of fire and not a process, just as earth—into which the other half of sea is regarded as changing—is a τροπή. In this case πρηστήρ is an expression for fire; and since one of its root meanings is 'burn' this is not unlikely in itself. The few early occurrences of the word do not provide an exact parallel, but cf. Hdt. VII, 42 βρονταί τε καὶ πρηστῆρες ἐπεσπίπτουσι; Xenophon *H.G.* I, 3, 1 ὁ...νεὼς τῆς Ἀθηνᾶς ἐνεπρήσθη πρηστῆρος ἐμπεσόντος; Theophrastus *de ign.* 1 πρηστῆρες καὶ κεραυνοί. These passages show that just as the word could be used in one simple sense as 'hurricane', so it could be used of something inflammatory associated with thunder and lightning, and so either the lightning-flash itself, or the thunderbolt. As it stands the word means 'burner' or 'blazer', and is applied to a particular form of fire just as it is otherwise applied to a particular kind of 'blower', i.e. a bellows. It would indicate celestial fire quite clearly enough. That Heraclitus used synonyms for fire is suggested also by κεραυνός in fr. 64; in fr. 31 πρηστήρ is very similar to this 'thunderbolt'. Therefore half sea is thought of as reverting to fire, half as turning to earth.[1]

The second part of the fragment is separated from the first by a further piece of misinterpretation by Clement: he probably took διαχέεται to indicate a dispersal of sea into fire (which is, perhaps, how he understood this part of the fragment to refer to an ecpyrosis), and yet the proportion of this dispersal is said to be the same as existed before sea became earth—that is, when it was still sea. This makes nonsense. If, on the other hand, *earth* is taken as the subject of διαχέεται, an excellent sense is restored: earth is dispersed as sea, and is measured into (i.e. so as to produce) the same proportion as existed before it became earth; that is, nothing is lost in the process, and sea is implied to be replenished by the liquefaction of earth proportionally with its diminution by condensation into earth. Each of the three world-masses retains its total volume unchanged throughout these changes. Reinhardt, *Hermes* 77 (1942) 16, has attempted to

[1] Reinhardt (*Hermes* 77 (1942) 16) is surely wrong in trying to dissociate πρηστήρ from what he calls the 'Mächtigkeit des Urfeuers': κεραυνός certainly exemplifies this power, and in fact Heraclitus probably did not *clearly* distinguish cosmic fire from all other kinds of fire (*contra* Lassalle, Zeller, and others: cf. ZN 814[3])—certainly not from different kinds of celestial fire.

justify θάλασσα as subject of διαχέεται (accepted also by Snell): 'Das Meer geht aus festem in flüssigen Zustand über.' In other words, 'sea' here stands for 'sea which has become earth'. This is difficult, though perhaps just possible; since it involves no change in the text it should not be absolutely rejected. However, what is meant is still, essentially, ⟨γῆ⟩ θάλασσα διαχέεται, and for the sake of clarity I provisionally accept this slight addition; that this interpretation is in the main correct is confirmed by Diog. L. IX, 9, πάλιν τε αὖ τὴν γῆν χεῖσθαι. This, however, is no reason for conjecturing ⟨πάλιν δὲ γῆ⟩, like Deichgräber, *op. cit.* 49: fr. 91 is a false analogy. The two parts of the fragment were probably consecutive. It is possible that some short intervening sentence in which γῆ was mentioned has been omitted; but on the whole this seems less likely, since with the restoration of γῆ the two statements form a compact yet complete account of all the changes involved: this is apparent as soon as πρηστήρ is given its necessary meaning of fire, and as soon as it is understood that the 'upward' and 'downward' changes of sea (which alone changes into two world-masses) are very naturally treated together, instead of in their ostensibly logical order. The fragment may be represented diagrammatically:

πυρὸς τροπαί·	*Fire*	Fire	
	↓	↑	[θαλάσσης] τὸ δὲ ἥμισυ πρηστήρ·
πρῶτον θάλασσα,	Sea	Sea	
[θαλάσσης] τὸ μὲν ἥμισυ γῆ	↓	↑	⟨γῆ⟩ θάλασσα διαχέεται κτλ.
	Earth	Earth	

The equality of the changes is expressed for two of the stages: half of sea is moving up, half changing to fire; the same amount of earth is dissolved into sea as formerly (πρόσθεν refers rather to priority in the logical schema than strictly to temporal priority) turned from sea to earth. The only stage for which this balance is not asserted is fire, but the balance can be easily inferred, and is carefully stated in a slightly different form in fr. 90.

Clement's final comment, ὁμοίως καὶ περὶ τῶν ἄλλων στοιχείων τὰ αὐτά, has been frequently misinterpreted. Possibly the omission of air in part caused the comment; more likely he was simply explaining (what might be deduced from the fragment) that the λόγος of air and earth, as well as of sea, remains unchanged when they too are 'dissolved' to fire in the ecpyrosis. All these 'dissolutions' take

place simultaneously on the Stoic view. Theophrastus, judging by Diog. L. IX, 9 (p. 328), made a superficially similar addition, ἐκ δὲ τούτου [sc. ὕδατος] τὰ λοιπά: 'the rest' are the heavenly bodies, the creation of which he thinks had not been adequately explained.[1] We know that there was no such *cosmogonical* explanation to be given: to the evidence of fr. 30, and that of the assertion of Plato at *Sophist* 242D, E that Heraclitus, as opposed to Empedocles, postulated simultaneity as opposed to periodicity of change between opposites, may be added the implication of the present tenses with which some of the τροπαί in fr. 31 are described as taking place; these show that what is being described is a constant process and not a periodical cataclysm.

The extremely schematic form of the fragment may blind us to the kind of physical change which Heraclitus must have had in mind. (Not that the schematic form is accidental; it reinforces the idea of the regularity in such change, a regularity on which the continuous near-stability of the cosmos depends.) The alterations envisaged are those with which any coastal observer would have been familiar—the most apparent forms of the transformation, that is, between what struck him as the three main components of the world around him: the bright sky above with its fiery bodies, sun, moon and stars; the mass of dry land; and, equally vast in extent and greatly outweighing other forms of water like wells and rivers, the sea. The transference between the sky-fire and sea was obviously by means of rain, which in mythology was regarded as the seed of Ouranos with which he impregnated Gaia (cf., for example, Aesch. *Danaids*, fr. 44 ἐρᾷ μὲν ἁγνὸς οὐρανὸς τρῶσαι χθόνα κτλ.). Sea turned to earth, it was thought, when rivers and harbours silted up, as the harbour of Ephesus itself was silting even in Heraclitus' time; this was a commonly accepted truth, and Xenophanes used his knowledge of marine fossils in Malta, Paros and Syracuse to substantiate a theory (possibly held in a slightly different form by Anaximander) that the earth had once been all sea (DK 21 A 33; 12 A 27). The recurrent Ionian idea that the earth had solidified out of primeval ἰλύς was no

[1] Probably he did not understand that τὸ δὲ ἥμισυ πρηστήρ expresses the change sea → fire: Diels, Kranz in DK, Deichgräber, and other modern scholars, who think that this change has been lost from the text (whether of Clement or of Heraclitus), are equally in error. See Reinhardt, *Hermes* 77 (1942) 245 ff., who is himself confused about πρηστήρ.

doubt partly dependent on this observation. Earth turned back into sea when new streams and springs issued forth; when the coastline receded; or when whole land-masses sank, as it was believed that Atlantis had sunk and that the straits of Messina had appeared to separate Sicily from Italy. Similarly the mythical upheaval of islands, like Rhodes and Delos, was perhaps used to support the fact of change from sea to earth. For all these instances see Philo *de aet. mundi* 23–6, which derives, via Stoic media, from Theophrastus. The change from sea back to fire was, obviously enough, due to evaporation—what became known, later probably than Heraclitus, as ἀναθυμίασις. This has already been fully discussed under fr. 6; the doxographical tradition is unanimous in attributing to Heraclitus the belief that the moist exhalation supplied nourishment for the heavenly bodies, and that by being burnt up in their bowls it turned into fire. Heraclitus recognized that the sun was the sole cause of the bright daylit sky, and thus that all celestial fire was maintained ultimately by the sea. This last is the only process for which we have direct evidence relating to Heraclitus (apart from the word διαχέεται, which indicates the necessary mechanics of, but does not fully describe, the change from earth to sea). The other types of change, however, became almost canonical in meteorological writings; they are accepted by Aristotle in *Meteorologica* A 14, and probably by Theophrastus, some of whose arguments, based no doubt on Aristotle's, are preserved in Philo *de aet. mundi* 23–6. The essence of these cosmological changes according to Aristotle and Theophrastus was that the balance between world-masses was retained. Aristotle was anxious to combat Ionian theories (cf. those of Xenophanes) that the world is coming-to-be or passing away, and to assert that, although there may be an excess of moisture or dryness in one part of the world or another, and for a greater or longer period, there is nevertheless a long-term stability.[1] It is clear

[1] Cf. especially Aristotle *Meteor.* A 14, 352 a 17: 'Men whose outlook is narrow suppose the cause of such events to be change in the universe, in the sense of a coming to be of the world as a whole. Hence they say that the sea is being dried up and is growing less, because this is observed to have happened in more places now than formerly. But this is only partially true. It is true that many places are now dry, that formerly were covered with water. But the opposite is true too: for if they look they will find that there are many places where the sea has invaded the land. But we must not suppose that the cause of this is that the world is in process of becoming' (tr. E. W. Webster).

enough that in the *Meteorologica* he shows familiarity with, and partial reliance on, earlier theories (e.g. his development of Heraclitus' exhalation-theory), as indeed did Theophrastus; and now a true assessment of Heraclitus' doctrine of μέτρα, in particular in fr. 31, shows that Heraclitus anticipated, and was perhaps responsible for, Aristotle's theory of cosmological stability. It is important to understand the types of cosmological changes which Heraclitus had in mind, because then and only then can it be fully understood that the changes were not exactly balanced at every moment in every part of the world, but that the sum of things is unchanged all the time. The evaporation of the sea is fairly constant, though much greater in daytime and in summer; but the change from earth to sea may be concentrated in certain areas (e.g. where estuaries are plentiful), and the change from sea to earth may be equally local and quite spasmodic. The old misinterpretation of a 'way up and down' for all matter, by which there is a constant and usually imperceptible change of matter in both directions, is based upon a vicious application of the Platonic distortion of the river-fragments (see pp. 366 ff.) to the inviting schema of this fr. 31.

Summary of the Arguments for and against an Ecpyrosis in Heraclitus

In modern times Zeller argued the case for accepting the Stoic attribution of an ecpyrosis to Heraclitus, and has been followed by Diels, Gomperz, Gilbert, Brieger and Gigon, to name only some of the more notable. The opposite view was maintained by Schleiermacher and Lassalle in the last century: their views have been summarized and expanded by Burnet 158–63; further considerations against the ecpyrosis have been adduced by Reinhardt, *Parmenides* 163 ff., and in his article 'Heraklits Lehre vom Feuer', *Hermes* 77

Theophrastus probably accepted this: Philo, *loc. cit.*, attributed to him four arguments against the eternity of the world, of which only the first two, probably, were retailed by him (Diels *Doxographi* 106), the others being purely Stoic. But the counter-arguments adduced by Philo in chapters 25–6 are probably also derived from Theophrastus (who of course believed in the eternity of the world): thus he, like Aristotle, held that the sea is diminishing in parts, but also increasing elsewhere.

(1942) 1–27. Nearly all modern critics except Gigon and his followers accept the Schleiermacher-Lassalle-Burnet interpretation: even Nestle (ZN 879 n.), usually an extreme conservative, reproduces Burnet's arguments without disapproval, though they now require considerable modification and expansion.

In favour of an ecpyrosis in Heraclitus is the probable support of Aristotle (in *de caelo* A 10, 279b12, on p. 319), and the certain support of Theophrastus and the Stoics. The latter, however, were presumably influenced by Theophrastus, and the unreliable nature of their interpretation is shown by the addition of air to Heraclitus' three world-masses. Further, it is easy to see how Theophrastus was misled: fr. 90 (fire is exchanged for all things), fr. 30 (the world kindles in measures which Theophrastus took to be periods), fr. 31 (in part interpreted cosmogonically, and so implying also a reverse process)—all these were adequate to mislead someone who erroneously believed that the theory of successive single worlds was commonly held by the Ionians, e.g. by Anaximander, and who applied Aristotle's principle that 'all things perish into that from which they arose' to the details of cosmogony.

Against an ecpyrosis: (i) the whole tenor of Heraclitus' thought as expressed in the extant fragments: the unity of opposites upon which the Logos is founded depends upon the balance between them, the παλίντονος ἁρμονίη. If the 'strife' which symbolizes their interaction, and the consequent maintenance of the tension, ceased, then the world would cease to be—a consequence for which Heraclitus evidently rebuked Homer (see p. 242f.).[1] The dominance of fire in an ecpyrosis would entail the destruction of the Logos, the disruption of the 'hidden connexion', and the end of the 'war' which is 'father and king of all'. (ii) More specifically, an ecpyrosis would entail the abandonment of the 'measures' which are implied (in frr. 30, 31, 94, and others) to exist permanently in the world of natural change; and a breakdown of the exchange between fire and all things expressed in fr. 90. (iii) Fr. 30 declares quite definitely that *this* order (i.e. that which we see around us) is eternal and will never be destroyed. (iv) Plato made it quite clear at *Sophist* 242D, E

[1] This argument is admirably summarized (against the *Stoic* ecpyrosis) in Philo *de aet. mundi* 20, VI p. 104 Cohn: τῶν ἐν ταῖς συζυγίαις ἐναντίων ἀμήχανον τὸ μὲν εἶναι, τὸ δὲ μή...γενομένης δ' ἐκπυρώσεως ἀδύνατόν τι συμβήσεται· τὸ μὲν γὰρ ἕτερον ὑπάρξει τῶν ἐν ταῖς συζυγίαις, τὸ δ' ἕτερον οὐκ ἔσται.

that for Heraclitus unity and plurality existed simultaneously; there was no succession of opposed states (e.g. fire on the one hand, and the plural world on the other) as in Empedocles. No supporter of an ecpyrosis in Heraclitus has been able to explain this testimony away. (v) The case in favour of an ecpyrosis, weak as it is, is further invalidated by the following considerations. (*a*) Even among Stoic sympathizers there were evidently some who doubted the ecpyrosis-interpretation. Thus in *de def. or.* 12, 415F–416A Plutarch makes Cleombrotus complain that the Stoic ecpyrosis is 'encroaching upon the works of Hesiod as upon those of Heraclitus and Orpheus', and in one passage Marcus Aurelius (who elsewhere accepts the ecpyrosis, cf., for example, III, 3) introduces what is evidently an alternative (and correct) interpretation of Heraclitus: X, 7 ...ὥστε καὶ ταῦτα ἀναληφθῆναι εἰς τὸν τοῦ ὅλου λόγον, εἴτε κατὰ περίοδον ἐκπυρουμένου, εἴτε ἀιδίοις ἀμοιβαῖς ἀνανεουμένου, where Lassalle and Schleiermacher, followed by Burnet, are right in referring the ἀμοιβαί to Heraclitus (see ZN 869 n. 2). This alternative is a reference to Panaetius, who modified the Stoic ecpyrosis in this way; there is no evidence that he had Heraclitus in mind in so doing, but it may be significant that Marcus expresses the alternatives in Heraclitean terminology. (*b*) The fragments which were commonly supposed to refer to an ecpyrosis are of no evidential value for this purpose. The so-called fr. 66, which was the chief among these, is really an interpretation by Hippolytus (see pp. 359ff.); the identification of χρησμοσύνη καὶ κόρος (fr. 65), in the same passage of Hippolytus, with διακόσμησις and ἐκπύρωσις, is Stoic in thought and terminology, and has been adopted by Hippolytus because it appears to anticipate the Last Judgement (see pp. 357ff.). Fr. 90, which has sometimes been held, after Theophrastus, to support an ecpyrosis ('all things are exchanged for fire, and fire for all things, as goods for gold and gold for goods'), accords well with the τροπαί theory of partial physical exchanges: the point is that the total of goods or gold remains unchanged, not that all the goods go to one party, all the gold to another (see pp. 346ff.). And the last sentence of fr. 10 does not imply periodicity (see pp. 177ff.).

One argument against the ecpyrosis is of no value (so also Reinhardt *Parmenides* 170n.). It was advanced by Lassalle, II, 142, and assimilated by Burnet, 150f., 155f., 162, and uses the theory outlined in *de victu* I, 3 to account for natural changes as due to

inevitable reactions between fire and moisture (in the form of exhalations); but though this theory of the alternate advance of fire and water occurs in a treatise which has Heraclitean elements, there is no reason whatever to assign it to Heraclitus, for whom fire sea *and earth*, and not the first two alone, were involved in natural change. *De victu* is an eclectic work which embroiders on Empedocles, Anaxagoras and Archelaus, as well as upon Heraclitus; the interaction of fire and water belongs in all probability to Archelaus.[1]

[1] A fresh defence of ecpyrosis in Heraclitus has now been made by R. Mondolfo, *Phronesis* 3 (1958) 75ff.; I find it unpersuasive (*Phronesis* 4 (1959) 73ff.), and Mondolfo in turn rejects my counter-arguments (e.g. *Problemas y Métodos de Investigación en la Historia de la Filosofía* (Buenos Aires, 1960), 143–5).

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(68 B)

Clement *Stromateis* VI, 17, 1 (II, p. 435 Stählin) Ὀρφέως δὲ ποιήσαντος·

> ἔστιν ὕδωρ ψυχῇ θάνατος †δ' ὑδάτεσιν ἀμοιβή†[1]
> ἐκ δ' ὕδατος ⟨μὲν⟩[2] γαῖα, τὸ δ' ἐκ γαίας πάλιν ὕδωρ·
> ἐκ τοῦ δὴ ψυχὴ ὅλον αἰθέρ' ἀναΐσσουσα·[3]

Ἡράκλειτος ἐκ τούτων συνιστάμενος τοὺς λόγους ὧδέ πως γράφει· **ψυχῇσιν θάνατος ὕδωρ γενέσθαι, ὕδατι δὲ θάνατος γῆν γενέσθαι· ἐκ γῆς δὲ ὕδωρ γίνεται, ἐξ ὕδατος δὲ ψυχή.**

1 ψυχή cod., em. Sylburg: pro δ' ὑδάτεσιν ἀμοιβή coni. Bywater ψυχῇ δ' ὑδάτεσσιν. 2 ⟨μὲν⟩ Hermann. 3 αἰθέρα ἀλλάσσουσα cod., em. Bywater.

Orpheus wrote: 'Water is death to soul...: from water comes earth, from earth again comes water; from that comes soul, leaping up to the whole aither.' Heraclitus, composing his words out of these lines, writes after this fashion: For souls it is death to become water, for water it is death to become earth; out of earth water comes-to-be, and out of water, soul.

The following discussion of this fragment is only partial, since its implications for Heraclitus' beliefs about the soul are only incidentally mentioned.

The Orphic verses (Kern *Orphicorum Fragmenta* no. 226) were obviously composed later than the saying of Heraclitus: see Stemplinger *Das Plagiat in der gr. Literatur* 63 and 73. Clement elsewhere also (*Strom.* VI, 27, 1) reveals his naïve belief that Heraclitus was dependent on Orphic doctrines. In these circumstances the confused text of the verses is not of great moment here; it is clear that they reproduced fairly closely the content of the fragment. That this is given with reasonable accuracy (ὧδέ πως is neutral) is indicated by a number of other, verbally similar, ancient references, though these only reproduce the first part of the fragment; for the second Clement is the only source. Philo *de aet. mundi* 21 and Hippolytus *Ref.* V, 16, 4 are the closest quotations; in the others (which like Hippolytus only give the first clause) ὑγρῇσι is substi-

tuted for ὕδωρ: e.g. Aristides Quint. p. 64, 32 Jahn Ἡράκλειτος... λέγων ψυχῇσι [ms. ψυχὴν] θάνατον ὑγρῇσι γενέσθαι. Cf. also Julian *Or.* V, 165D; Proclus *in Tim.* 22D; Olympiodorus *in Gorg.* p. 142, 8 Norvin. In fr. 117 (*ap.* Stob. *Flor.* V, 7) the drunk man is described as ὑγρὴν τὴν ψυχὴν ἔχων, and this might be the source of the variant ὑγρῇσι in fr. 36: but it is also possible that ὑγρὴν–ἔχων in fr. 117 is a gloss along the lines of the versions of fr. 36. The phrase recurs in fr. 77D (= 72B) which is quite patently not a genuine quotation but simply a reworking of fr. 36 and possibly of fr. 117: Numenius *ap.* Porphyr. *Antr. nymph.* 10 ὅθεν καὶ Ἡράκλειτον ψυχῇσι φάναι τέρψιν μὴ θάνατον ὑγρῇσι γενέσθαι (this may well be the source of the other Neoplatonist references quoted above). Zeller, ZN 891, followed by Burnet 153 and Gigon 109, took μὴ θάνατον to be an addition by Numenius—but this is the most obviously Heraclitean part of the whole, θάνατον being a clear reference to fr. 36. Diels and Reinhardt read ἢ θάνατον, Kranz suggested καὶ θάνατον: μή is improbable since the whole sentence is ascribed to Heraclitus; τέρψις is either based on fr. 117, or simply reproduces the Neoplatonist view that the soul finds pleasure in change. No part of the sentiment ascribed to Heraclitus looks in any way like an original quotation; it should certainly not be classed as a fragment.

Fr. 36 deals with the alterations of three constituents, soul, water and earth. The presence of soul here is surprising, and was probably intended to be so; earth at any rate belongs to the field of large-scale natural changes, as presumably does water, although in fr. 31 the term used is 'sea' and not 'water'. Soul, then, occupies the position which fire might have been expected to fill. This is significant, for other fragments about the soul, especially 118, show that Heraclitus regarded it, in its pure state, as fiery—and fire is replenished by sea in fr. 31. It is quite wrong to think of soul in Heraclitus as airy or vaporous, like Nestle, ZN 816 n. (e.g. Philo, *de aet. mundi* 21, gave as the interpretation of fr. 36: ψυχὴν γὰρ οἰόμενος εἶναι τὸ πνεῦμα κτλ.): it may be maintained by vapour, but its normal constitution is fire. Aristotle calls the soul in Heraclitus an 'exhalation', but he almost certainly means fire (so Zeller ZN 815 n. 1): *de an.* A 2, 405a25 καὶ Ἡράκλειτος δὲ τὴν ἀρχὴν εἶναί φησι ψυχήν, εἴπερ τὴν ἀναθυμίασιν ἐξ ἧς τἆλλα συνίστησιν. This 'exhalation' is not the moist evaporation from sea, but Aristotle's own dry exhalation,

itself a kind of fire and so analogous to Heraclitus' ἀρχή in so far as he had one. It seems therefore that Heraclitus has here put soul in the place of cosmic fire. There can be no question of a cosmic soul (as in Aëtius IV, 3, 12, on p. 371); the plural ψυχῇσι, apart from other considerations, makes that certain. Nor indeed can the whole fragment apply to the microcosm, as Gigon 104f. maintained that earth represents flesh, water blood, in the human body.[1] Even if Xenophanes could say (fr. 33) πάντες γὰρ γαίης τε καὶ ὕδατος ἐκγενόμεσθα (and he did not mean this very literally), it would still be impossible to use γῆ by itself to mean flesh: on the other hand, the changes between earth and moisture had been asserted of the outside world in fr. 31. It is by no means certain, in any case, that the soul was nurtured from the blood. The Stoics assumed this, but for Heraclitus the soul's efficacy depended on contact with the outside world and with the material Logos, possibly by the medium of breath, as Sextus tells us, *adv. math.* VII, 126ff. (DK 22A16). Primarily the contact was with fire itself—the cosmic fire which was replenished by the exhalations from the sea. Perhaps it is to express this point that Heraclitus substitutes soul for cosmic fire. There is no essential difference between the two: soul is a form of material which, slightly changed, exists also outside bodies. (For a summary of my views on the soul in Heraclitus see *AJP* 70 (1949) 384ff.) From the point of view of Heraclitus' theory of natural changes in the world at large the importance of the fragment is that it confirms the statement of fr. 31, that the three world-masses are fire, water, earth; and that these three can change into each other in this order—fire, that is, does not change directly into earth nor earth into fire. In fr. 36 a different terminology is used to express these changes: not the 'turnings' of fire, but the 'death' of each separate form of matter. This is obviously a metaphorical use which was evidently an idiosyncrasy of Heraclitus. It is conceivably repeated in the very obscure fr. 21 ('what we see when awake is death', i.e. changes from one kind of matter to another?), and is certainly echoed in the paraphrases which Diels collected as his fr. 76, discussed below. Except for the anachronistic use of the word 'element', Philo accurately summarized Heraclitus' intention at *de aet. mundi* 21:

[1] That this kind of view was later attributed to 'Heraclitizers' (perhaps Stoics?) is shown by *Problemata* 13, 908a30...τινὲς τῶν ἡρακλειτιζόντων φασὶν ὅτι ἀναθυμιᾶται ὥσπερ ἐν τῷ ὅλῳ καὶ ἐν τῷ σώματι, κτλ.

θάνατον οὐ τὴν εἰς ἅπαν ἀναίρεσιν ὀνομάζων ἀλλὰ τὴν εἰς ἕτερον στοιχεῖον μεταβολήν. Like the Milesians Heraclitus seems to have believed that things cannot be annihilated; so on the 'death' of the individual his constituents are not totally destroyed, but the ψυχή becomes either fire or water (according to its condition at the moment of death) and the body, as worthless now as dung (fr. 96), decays and turns into moisture and earth. Therefore when a portion of fire turns into an equivalent portion of water this involves the 'death' of fire and the 'birth' of water; it is further stated that a particular kind of 'death' entails a particular consequence of 'birth'—e.g. 'death' for fire, which happens whenever fire ceases to be fire, necessarily entails the 'birth' of water. Water, since it occupies a medial position in the process, may have two kinds of 'death', either into earth or into fire: but we are not specifically told that the latter change can properly be described as θάνατος. It is very possible that it cannot: H. Gomperz (*Tessarakontaeteris Th. Borea* (Athens, 1940) II, 52f. and n. 4) acutely observed that Heraclitus held movement to be characteristic of life, rest of death (DK 22A22, cf. 22A6); therefore it is *death* to pass from a fluid to a more solid state, and the reverse process, Gomperz held, is not death but *life*. Once again it is legitimate to wonder whether the occurrence of ψυχή restricts the whole fragment to human or animal changes, since θάνατος normally describes one such change. But θάνατος must be metaphorical in ὕδατι δὲ θάνατος γῆν γενέσθαι (and would be so even on Gigon's interpretation). Nevertheless, it is possible that it bears something of its normal significance, too, in the opening clause, and that the meaning is 'the soul can only be said to die (when the individual dies) if it turns to water; if it remains fiery it remains "alive"'. This accords with Gomperz's interpretation. Whether this is so or not, the significance of the parallelism of this fragment with the cosmological fragment 31, and the sequence of inevitable natural changes outlined there, remains undiminished.

That Heraclitus did not count air as an important constituent of the natural world (or perhaps as substantial at all: the corporeality of air was assumed by Anaximenes, but not proved before Empedocles), or as one of his world-masses, is demonstrated by its absence from fr. 31 and confirmed by its absence from this fr. 36. Its insertion into Heraclitus' scheme was due to the Stoics, at a time when it was an accepted member of the four στοιχεῖα or 'roots' originated by

Empedocles. A group of sayings is attributed to Heraclitus in which the θάνατος metaphor is used and air is added to the three world-masses of fr. 31 (*soul*, water and earth in fr. 36). This group is counted as fr. 76 by Diels (= 25B), and is set out below:

Plutarch *de E* 18, 392C	Marcus Aurelius IV, 46, 1	Maximus Tyrius XLI, 4
. . . ὡς 'Ηράκλειτος ἔλεγε, πυρὸς θάνατος ἀέρι γένεσις καὶ ἀέρος θάνατος ὕδατι γένεσις. [πυρὸς θ. ἀέρος γένεσις at *de prim. frig.* 10, 949A]	ἀεὶ τοῦ 'Ηρακλειτείου μεμνῆσθαι, ὅτι γῆς θάνατος ὕδωρ γενέσθαι καὶ ὕδατος θάνατος ἀέρα γενέσθαι καὶ ἀέρος πῦρ καὶ ἔμπαλιν.	. . . κατὰ τὸν 'Ηράκλειτον . . . ζῇ πῦρ τὸν γῆς θάνατον καὶ ἀὴρ ζῇ τὸν πυρὸς θάνατον· ὕδωρ ζῇ τὸν ἀέρος θάνατον, γῆ τὸν ὕδατος.

Scholars have for long had suspicions that these passages present no new information on Heraclitus, nothing like a separate direct quotation, but only a Stoicized version of fr. 36 in which πῦρ is substituted for ψυχή on the analogy of fr. 31, and the 'death' metaphor is formally extended to the remainder of the process. Zeller's scepticism (ZN 850ff.) followed that of Schuster and Teichmüller, and was approved by Diels and Kranz: few except the inaccurate Gilbert held out against this interpretation until Gigon 99 reasserted a faith in fr. 76D, on the ground that Heraclitus, like Anaximander, believed in the special position of the hot and the cold, the wet and the dry (cf., for example, fr. 126, which, however, is evidently purely general in its application), and could therefore have believed in four and not three world-masses. But the question is not what he *could* have believed but what he *did* believe, and fragments 31 and 36 show quite clearly that he believed that the main constituents of the world were fire, sea, earth—not air. Further, the argument about the opposites is somewhat misleading (on this point see W. Bröcker's review, *Gnomon* 13 (1937) 533): the hot and the cold, etc., were indeed substances, but they were not yet neatly identified with specific forms of matter. Possibly the hot was often identified with fire, the wet with sea; but earth and air were more difficult to associate with a single one of these four opposites. It is often said that Empedocles simply identified traditional basic pairs of opposites with particular kinds of matter, but his procedure was more complicated than that: we may infer that he first had to prove the substantiality of air. It may be that Heraclitus' omission of air is a direct

criticism of Anaximenes' acceptance of it. At any rate there is no evidence whatsoever that Heraclitus ever attempted to describe natural changes in terms *solely* of the opposites; indeed, one of the strangest features of his system is the lack of explicit interrelation between his special analysis of cosmological change (between fire, water and earth) and his general analysis of change as between opposites. No doubt the latter was primarily a logical analysis, and as such led to his 'great discovery', that opposites are not really disconnected; the former primarily an empirical one based upon the evidence of the eyes. The connecting link between the two was the concept of μέτρον, which automatically holds between opposites and is repeatedly stressed in the three-stage cosmological changes: on this see my article 'Natural Change in Heraclitus', *Mind* LX, n.s. no. 237 (Jan. 1951) 35ff. To revert in conclusion to the pseudo-fragment: note that all the sources are Stoic, and that the earth→fire change in Maximus (who introduces the word γῆ from a garbled version of fr. 62 which he had just retailed) is impossible; various corrections of this have been proposed, but the matter is of little importance, and in any event Maximus probably just did not understand.[1]

[1] Cherniss noted in *AJP* 56, 1935, 415f., that fr. 76D posits a cycle of change which Aristotle said none of his predecessors had accepted. (I owe this information to W. G. Rabinowitz and W. I. Matson, *Review of Metaphysics* 10, 1956, 244ff., a useful review-article.)

90

(22B)

Plutarch *de E* 8, 388D, E ὡς γὰρ ἐκείνην [sc. τὴν τὰ ὅλα διακοσμοῦσαν ἀρχήν] ὑπαλλάττουσαν[1] ἐκ μὲν ἑαυτῆς τὸν κόσμον ἐκ δὲ τοῦ κόσμου πάλιν ἑαυτὴν ἀποτελεῖν **πυρός τε**[2] **ἀνταμοιβὴ τὰ**[3] **πάντα** φησὶν ὁ Ἡράκλειτος **καὶ πῦρ ἁπάντων ὅκωσπερ**[4] **χρυσοῦ χρήματα καὶ χρημάτων χρυσός,** οὕτως ἡ τῆς πεμπάδος πρὸς ἑαυτὴν σύνοδος οὐδὲν οὔτ' ἀτελὲς οὔτ' ἀλλότριον γεννᾶν πέφυκεν, ἀλλ' ὡρισμένας ἔχει μεταβολάς.

1 ὑπαλλάττουσαν Wilamowitz, ἐναλλάττουσαν Madvig, πλάττουσαν Bernays: φυλάττουσαν codd. 2 τε X^3 B g, om. cett. 3 ἀνταμοίβηται Γ ἀνταμείβεται codd. cett., corr. Schwartz, Diels. ἀνταμείβεσθαι Wyttenbach. ἀνταμοιβὴν τὰ Sieveking. 4 ἐκ ὥσπερ Γ, ὥσπερ codd. cett., corr. Bernardakis.

For as Heraclitus says that the principle which orders the whole by gradually changing makes the world out of itself and again itself out of the world, and All things are an equal exchange for fire and fire for all things, as goods are for gold and gold for goods—*so the conjunction of the number five with itself by its nature generates nothing incomplete or of different character, but has changes which are determined.*

In this difficult sentence Plutarch follows the Stoic ecpyrosis-interpretation of Heraclitus. The whole sentiment from ὡς γὰρ ἐκείνην down to the end of the quotation is attributed to him, but the accepted quotation may be in direct speech in spite of the *oratio obliqua* of the rest, and it is unnecessary to read the accusative ἀνταμοιβήν, with Sieveking, instead of ἀνταμοιβή which is the reading suggested by the mss. τε, omitted by most mss., is a necessary connexion. The restoration of ἀνταμοιβή instead of any form of the verb seems to be a certain one (see Diels *SB Ber* (1901) 191), and is virtually indeed the reading of the class Γ, which is in general the most reliable because it does not often attempt to cure obvious corruptions (ed. Paton, Pohlenz, Sieveking (Teubner 1929), p. xxvi). The reading is confirmed by the fact that Theophrastus evidently accepted the noun-form (though ἀμοιβή and not ἀνταμοιβή): so *Phys. op.* fr. 1 *ap.* Simpl. *in Phys.* 24, 4 πυρὸς ἀμοιβὴν . . .

πάντα; Diog. L. IX, 8 πυρὸς ἀμοιβὴν τὰ πάντα. Cf. other doxographical versions, Heraclitus Hom. *Qu. Hom.* 43; Eusebius *P.E.* XIV, 3; Philo *Leg. alleg.* III, 7; Plotinus *Enn.* IV, 8, 1, etc. Imitations are certainly found in which the verbal form occurs: so *de victu* I, 5 χωρεῖ δὲ πάντα καὶ θεῖα καὶ ἀνθρώπινα ἄνω καὶ κάτω ἀμειβόμενα; Lucian *Vit. auct.* 14; Philo *de aet. mundi* c. 21. But the authority of Theophrastus, and indeed the text tradition of Plutarch, justify the acceptance of ἀνταμοιβή. The compound noun is not found elsewhere before Charito 5, 2, 4, τῆς εὐεργεσίας τὴν ἀνταμοιβήν, but it is a perfectly possible one. ἀνταμείβεσθαι meaning 'to exchange' occurs in Archilochus, fr. 74, 7 Diehl, but in a reciprocal sense; meaning 'to requite' it occurs in Archilochus and tragedy, though only at Aristophanes *Thesm.* 723 is the object for which requital is made expressed, by ἀντί with the genitive. The simple genitive, however, would not be impossible here.—The use of the article with πάντα is not common, but can be paralleled in, for example, Heraclitus fr. 64 (τὰ δὲ πάντα οἰακίζει κεραυνός), and is retained in three doxographical versions of Theophrastus, including Diog. L. IX, 8 quoted above.

The fragment asserts that fire and 'all things' are equally exchanged for each other (ἀντ- reinforces the idea of exact reciprocity in ἀμοιβή), and the equality of these exchanges is emphasized by a simile. The exchanges of fire must obviously refer to the πυρὸς τροπαί described in fr. 31—fire is exchanged for τὰ πάντα, which means (as Cherniss points out in the passage quoted below) not 'the whole' as a homogeneous unit but all things individually in sum. Thus fire is exchanged for water and earth which, with fire itself, are the constituents of the world; both as cosmological world-masses (i.e. sky, sea, earth) and, in mixture (this may be inferred perhaps, though Heraclitus never directly discusses the material composition of individual things), as components of all different things. The μέτρον which was found to underlie the large-scale changes of fr. 31 is emphasized here by the simile from the market. Gold stands for fire and χρήματα for the different kinds of goods which gold can buy,[1] and the different kinds of object in the world. Gold is not given without getting goods in exchange; these goods equal the gold in value, and a certain amount of gold will buy

[1] Not, as Göbel, *Die vorsokratische Philosophie* 49f., ingeniously suggested, for 'small change': cf. Plato *Laws* VIII, 849 E ἀλλάττεσθαι νόμισμά τε χρημάτων καὶ χρήματα νομίσματος.

a determinate and fixed amount of goods. Similarly, goods are only given out when a proportionate amount of gold is exchanged for them. The simile has another application: one side of the exchange is homogeneous (i.e. gold, and fire), the other side is heterogeneous (goods of all kinds, and different physical things, or, in the last analysis, water and earth).

It sometimes used to be thought that this fragment could be used to show that Heraclitus postulated an ecpyrosis, and there is no doubt that Theophrastus took it to imply this (though Reinhardt, *Hermes* 77 (1942) 24, has no justification for the assertion that Aristotle did likewise). Gigon 47f. developed this interpretation in spite of the clear objections of Burnet and Reinhardt: he held that fr. 90 gave material expression to a logical rule which he derives from frr. 10 and 50, that is, all things come from one and one from all things—there is a periodic alternation between πῦρ on the one hand and the manifold κόσμος on the other. It was shown under fr. 10 that 'one' and 'many' are alternative ways of looking at things, not successive physical states; while fr. 50 simply asserts that 'all things *are* one', which is against Gigon's interpretation. Gigon argues, however, that just as in fr. 88 the living and the dead, etc., are said to be 'the same' because they constantly replace one another, so πῦρ and τὰ πάντα in fr. 90 constantly replace one another, and thus τὰ πάντα is an alternative state to πῦρ—in Stoic terminology, διακόσμησις as opposed to ἐκπύρωσις. I cannot do better in dealing with this contention than to quote the words of Cherniss in his brief but acute review of Gigon's *Untersuchungen*, in *AJP* 56 (1935) 414ff.: 'The comparison of frr. 90 and 88 which Gigon believes makes the assumption of an ἐκπύρωσις necessary appears to me to show the danger of Gigon's formalistic method, for the opposition πῦρ–πάντα is not analogous to ζῶν–τεθνηκός, ἐγρηγορός–καθεῦδον, νέον–γηραιόν. If we are to take the terminology of Heraclitus as seriously as Gigon does, we must distinguish first between the *identification* of the apparent contrarieties in fragment 88 and the relation of *equivalence* in fragment 90 and also we must remark the plural, τὰ πάντα, in the latter fragment which means not that *the whole* but that all things individually and collectively are equivalent to fire in varying amounts.' Further, the simile quite clearly precludes complete alternation, for in the exchange of gold and goods neither element is ever absorbed into the other (as τὰ πάντα would have to be in πῦρ),

but the total of each remains the same: the most extreme case which could theoretically occur would be if all the gold remained on one side, all the goods on the other; even so the goods still exist as such.

Cherniss went on to say that the reason why ζῶν–τεθνηκός, etc., can be called 'the same' is just that they can all be expressed in terms of fire. In this I think he is wrong: the identity of opposites of all kinds depends either upon their inevitable succession or upon the fact that their opposition is only relative; this is a logical discovery which summarizes the nature of the Logos. The *cosmological* aspect of the connexion of all things is that they are all πυρὸς τροπαί: this is something different. We have seen that Heraclitus perhaps did not fully integrate his opposite-doctrine with his doctrine of fire, though they are connected by the idea of μέτρον. Nevertheless, it seems probable that he applied to the theory of cosmological changes an idiosyncrasy of thought which partly determined the doctrine of opposites: dead always turns into alive, he said in fr. 88 (or night into day, summer into winter, etc.), and alive into dead: therefore dead is the same as alive. Fire always turns into sea, and indirectly into earth, earth and sea turn back into fire: therefore sea and earth are 'the same' as fire, and 'this order' can be described in fr. 30 as being 'an ever-living' fire (though parts of it at any one time are not fire in the full sense but are extinguished, have been 'exchanged' for something else). To this extent, and to this extent only, are frr. 88 and 90 compatible.

There remains one slight difficulty with fr. 90. Fire is said to be an exchange for 'all things'; but fire itself must be one constituent of 'all things' if this means all the individual things in the world, which are not restricted to water and earth alone. We know so little about Heraclitus' views on any except large-scale cosmological changes that we cannot properly elucidate this difficulty; but probably it is simply due to an unavoidable looseness of speech, and Heraclitus might argue that, just as some of the goods exchanged for gold might themselves contain a proportion of gold yet would not therefore be *called* gold, so τὰ πάντα *includes* mixtures of fire, which, however, can quite legitimately be contrasted with pure fire, whether this be isolated only in thought or also in fact, e.g. as celestial aither.

64, 65

(28, 24B)

Hippolytus *Refutatio* IX, 10, 6 (p. 243, 19 Wendland) λέγει δὲ καὶ σαρκὸς ἀνάστασιν...[fr. 63]. λέγει δὲ καὶ τοῦ κόσμου κρίσιν καὶ πάντων τῶν ἐν αὐτῷ διὰ πυρὸς γίνεσθαι λέγων οὕτως· **τὰ δὲ πάντα οἰακίζει κεραυνός** [=fr. 64], τουτέστι κατευθύνει, κεραυνὸν τὸ πῦρ λέγων τὸ αἰώνιον· λέγει δὲ καὶ φρόνιμον τοῦτο εἶναι τὸ πῦρ καὶ τῆς διοικήσεως τῶν ὅλων αἴτιον. καλεῖ[1] δὲ αὐτὸ **χρησμοσύνην καὶ κόρον** [=fr. 65]· χρησμοσύνη δέ ἐστιν ἡ διακόσμησις κατ' αὐτόν, ἡ δὲ ἐκπύρωσις κόρος· πάντα γάρ, φησί, τὸ πῦρ ἐπελθὸν κρινεῖ καὶ καταλήψεται. ἐν δὲ τούτῳ τῷ κεφαλαίῳ πάντα ὁμοῦ τὸν ἴδιον νοῦν ἐξέθετο, ἅμα δὲ καὶ τὸν τῆς Νοητοῦ αἱρέσεως... (seq. fr. 67).

1 καλεῖς cod., corr. Wendland, Diels.

He talks also of a resurrection of the flesh...[fr. 63]. He says also that a judgement of the world and of all in it comes-to-be through fire, in these words: Thunderbolt steers all things [=*fr.* 64], *that is, directs; by 'thunderbolt' he means the eternal fire; he says also that this fire is sagacious and cause of the management of the universe. He calls it* Deprivation and satiety [=*fr.* 65]; *deprivation is the world-ordering, according to him, and the consumption by fire ['ecpyrosis'] is satiety. For, he says, fire having come upon them will judge and overtake all things. In this section he displayed together his own special meaning, and at the same time that of the heresy of Noetus...(fr. 67 follows).*

This whole passage in Hippolytus from λέγει δὲ καὶ σαρκός to καταλήψεται appears to have been added as an afterthought—perhaps by Hippolytus himself, for the three quotations from Heraclitus are plausible enough, and suggest acquaintance with the kind of handbook (if not a book by Heraclitus himself) which Hippolytus must have used. The passage differs radically from the rest of the chapter in which it occurs. A number of quotations from Heraclitus occur in §§1–6 of *Ref.* IX, 10, all of which illustrate the coincidence of opposites and thus are relevant to Hippolytus' purpose of showing that the Noetian heresy (that Father and Son,

creator and created, are the same) is really derived from the pagan Heraclitus. §8 of the same book, from ἐν δὲ τούτῳ τῷ κεφαλαίῳ onwards, continues Hippolytus' exposition of this contention by quoting fr. 67—an illustration, it is claimed, of the fact that God is both creator of the world and immanent in the world. The intervening passage, however, introduces nothing relevant to Hippolytus' theme, but simply reports and discusses—partly in Stoic terms—three quotations of Heraclitus which are, indeed, germane to Christian doctrine in general, but have nothing to do with Noetus or his teaching. Hippolytus is usually so concise and so relevant that this excursus is unlikely to have belonged to this chapter as first written. This conjecture is confirmed by the use of the twice-repeated λέγει δὲ καί—a phrase unusual in Hippolytus, but normal enough anywhere in the case of piecemeal additions: cf., for example, ἔλεγε δὲ καί at Diog. L. IX, 2, to introduce a pair of quotations from Heraclitus which are obviously added as an afterthought. The form of the phrase is determined by the method of introducing the last relevant quotation prior to our passage (namely, fr. 62), λέγει δὲ ὁμολογουμένως τὸ ἀθάνατον εἶναι θνητόν κτλ. *That* quotation, like the one which preceded, illustrates Heraclitus' (and, it is supposed, Noetus') opposite-doctrine: but how different in sense are the three quotations which follow, illustrating as they do an apparent anticipation by Heraclitus of the resurrection of the dead, and the avenging fire of judgement day! The same conclusion may be suggested by Hippolytus' remark that 'in this section Heraclitus displayed together his own special meaning, and at the same time that of the heresy of Noetus, whom I have just shown to be a disciple not of Christ but of Heraclitus; for he says in these words that the created world itself became creator and maker of itself' (fr. 67 follows). '*This* section'[1]

[1] κεφάλαιον here probably means (as Macchioro, *Eraclito* 26 n. 1, maintained) 'section' or 'chapter' and not 'summary'; though I disagree with Macchioro and suppose that Hippolytus' source was a summary and not Heraclitus' complete book: nevertheless, a summary may have 'sections', as indeed, more generally, may a body of ideas. κεφάλαιον admittedly often means 'chief point', 'sum or gist of a matter': thus Plato could write (*Gorgias* 453A) ...πειθοῦς δημιουργός ἐστιν ἡ ῥητορική, καὶ ἡ πραγματεία αὐτῆς ἅπασα καὶ τὸ κεφάλαιον ἐς τοῦτο τελευτᾷ. But the *sum* of a matter is quite different from a *summary* of it: if τούτῳ τῷ κεφαλαίῳ referred forward to fr. 67 alone (which might be suggested by the γάρ at the beginning of that quotation), then κεφαλαίῳ here would have to mean 'summary' and not 'sum'

most naturally refers not forward to what follows, but backward, either to what immediately precedes or to the context of all the fragments quoted so far. But if the fragments which immediately precede do *not* display Heraclitus' 'special meaning' (i.e. the opposite-doctrine) then they may be presumed to have been added afterwards. Frr. 63–5 do not contribute to this doctrine; therefore the passage in which they occur is seen to be heterogeneous, from yet another angle.

The possibility that our passage is an afterthought helps to explain its lack of clarity and logical consequence. The saying 'thunderbolt steers all things' is not an apt illustration of a belief in the judgement of the world; and after λέγει δὲ καὶ φρόνιμον κτλ. a supporting quotation might have been expected, according to Hippolytus' normal practice. H. Fränkel's ingenious suggestion is recorded in DK, that the quotations were originally written in the margin and their proper order altered when they were brought into the text: originally πάντα γάρ φησι τὸ πῦρ ἐπελθὸν κτλ. (counted by Diels as fr. 66) came in the place of fr. 64, which itself (with its explanation τουτέστι–αἰώνιον) belonged after τῶν ὅλων αἴτιον. There are two serious objections to this solution: first, the expression λέγων οὕτως indicates that one quotation at any rate came in the text; it cannot have been added to accommodate a quotation, since with the transposition suggested either it or the words γάρ φησι in πάντα γάρ φησι τὸ πῦρ κτλ. are superfluous and have to be removed. Secondly, it will be seen below that the so-called fr. 66 cannot be a genuine quotation from Heraclitus, but is merely a summary or paraphrase by Hippolytus: therefore, suitable as it may seem, it cannot stand as illustration of the statement that Heraclitus spoke of a judgement by fire. The lack of cogency in the whole passage is partly explained once it is seen that Hippolytus is simply readapting the Stoic ecpyrosis-interpretation, but is unable to substantiate it with anything more apt than fr. 64 for the very reason that Heraclitus never postulated an ecpyrosis. That Hippolytus here is dependent on a Stoic source is shown by the paraphrase κατευθύνει (cf. Cleanthes *Hymn* l. 12); by the phrase τῆς διοικήσεως τῶν ὅλων αἴτιον; by the

(which could hardly occur with a demonstrative adjective). A sentence can be a summary or can *contain* the sum of a doctrine: it cannot *be* that sum. Only if τῷ κεφαλαίῳ were in apposition to τούτῳ meaning τούτῳ τῷ λόγῳ or the like would the difficulty be met: and this is out of the question.

epithet φρόνιμον applied to fire (cf. the Stoic πῦρ νοερόν: but see the discussion below); and by the correlation of χρησμοσύνη and διακόσμησις, κόρος and ἐκπύρωσις, which occurs elsewhere in Stoicizing contexts at Plutarch *de E* 9, 389C and Philo *de spec. legg.* I, 208 (V, p. 50 Cohn). Philo is frequently dependent on Stoic interpretations, and Reinhardt, *Parmenides* 164 n. 1, 173, suggested that his source here was Posidonius. The occurrence of all these factors cannot easily be accidental: Hippolytus here displays his acquaintance with the Stoic versions of Heraclitus as well as with the collection of sayings, though he does not abandon his own Christian interpretation (to which fr. 63 and comment is entirely due). Stoic influence is not detectible elsewhere in the chapters on Heraclitus and Noetus, which is a further indication that the passage under discussion occupies a special position. The difficulty remains that λέγει δὲ καὶ φρόνιμον is still in the air, and does not lead up (as one might expect) to a quotation illustrating the point that fire is endowed with intellect. It is certainly true that Fränkel's proposed rearrangement, by making fr. 64 the illustration required, gives a satisfactory sense; the word οἰακίζει itself suggests an intelligent agent and might give rise to φρόνιμον, but the other objections to that rearrangement are too strong for this solution to be acceptable. It is possible that φρόνιμον looks *backward* to fr. 64 (in the conventional and probably correct arrangement of the passage), though λέγει δὲ καί is against this; or Hippolytus may have had in mind some saying of Heraclitus which he did not quote (or which dropped out of the text), such as fr. 32 ἓν τὸ σοφὸν μοῦνον λέγεσθαι οὐκ ἐθέλει καὶ ἐθέλει Ζηνὸς ὄνομα, where the one thing which is described as wise might very well be identified with fire. More plausible perhaps is a solution proposed by Reinhardt (*Hermes* 77 (1942) 25ff.) and approved by Kranz in the Nachträge to DK[6] (I, p. 493). According to this proposal φρόνιμον itself would be a quotation from Heraclitus (or rather, πῦρ φρόνιμον) —the remainder of the sentence being, of course, Stoic in character. Reinhardt quotes several passages from Clement in which the phrase πῦρ φρόνιμον (or σωφρονοῦν) occurs, e.g. *Paedag.* III, 44, 2 (I, p. 262, 13, St.) ...ὀλίγον τι τοῦ φρονίμου πυρὸς ἐκείνου ἐπὶ τὴν ἀκολασίαν ἐγχέων (where ἐκείνου suggests that a reference to a well-known phrase is involved); *Protrept.* 53, 3 (I, p. 41, 14 St.) ...καὶ τὸν ἐν Δελφοῖς τοῦ Ἀπόλλωνος πρότερον ἥρπασεν θύελλα, ἔπειτα ἠφάνισε πῦρ σωφρονοῦν. However, Reinhardt omitted to quote in full a

passage which seems to give the true origin of this phrase: Clement *Strom.* VII, 34, 4 (III, p. 27, 5 St.) φαμὲν δ' ἡμεῖς ἁγιάζειν τὸ πῦρ οὐ τὰ κρέα ἀλλὰ τὰς ἁμαρτωλοὺς ψυχάς, πῦρ οὐ τὸ παμφάγον καὶ βάναυσον ἀλλὰ τὸ φρόνιμον λέγοντες, τὸ διικνούμενον διὰ ψυχῆς τῆς διερχομένης τὸ πῦρ. Stählin comments that the distinction between two types of fire is Stoic; this is certainly the case, cf., for example, Cicero *N.D.* II, 15, 41 'Atqui hic noster ignis, quem usus vitae requirit, confector est et consumptor omnium...contra ille corporeus vitalis et salutaris omnia conservat, alit, auget, sustinet, sensuque adficit.' Anrich, who examined the origins of πῦρ φρόνιμον in his paper 'Clemens u. Origenes als Begründer der Lehre vom Fegfeuer', *Theol. Abh. f. H. J. Holtzmann* (Tübingen and Leipzig, 1902) 112ff., reached the conclusion that it may be either Stoic in origin, or invented by Clement: the latter is unlikely (since, for example, Clement attributes the use of the phrase to 'the prophets' at *Ecl. proph.* 25, 4 (III, p. 144, 8 St.)). The first explanation seems correct. Reinhardt dismisses it on the ground that the Stoic term was πῦρ νοερόν or πῦρ τεχνικόν: but the difference between νοερόν and φρόνιμον, when they are applied to what is usually regarded as an inanimate substance, is not great. Indeed, there is evidence that Chrysippus used the word φρόνιμον of fire: he certainly called the world ἕνα τῶν φρονίμων (*ap.* Philodemum *de piet.* c. 14 = *SVF* II, 636), admittedly perhaps in a Heraclitizing context; more important is August. *de civ. dei* 8, 5 (*SVF* II, 423) 'Nam Stoici ignem...et viventem et sapientem et ipsius mundi fabricatorem... eumque omnino ignem deum esse putaverunt.' Reinhardt, who quoted this passage (*op. cit.* 26 n. 4), argues that 'sapientem' may translate νοερόν: this seems most unlikely, but if true indicates that Augustine or his preceptors felt the difference between νοερόν and φρόνιμον to be slight. This is indicated less equivocally in Arius Didymus fr. 33 *ap.* Stob. *Ecl.* I, 25, 5 (p. 213, 15 W.) = *SVF* I, 120: Ζήνων τὸν ἥλιόν φησι καὶ τὴν σελήνην καὶ τῶν ἄλλων ἄστρων ἕκαστον εἶναι νοερὸν καὶ φρόνιμον, πύρινον ⟨δὲ⟩ πυρὸς τεχνικοῦ. Philo, *de aet. mundi* 19, VI p. 102 Cohn, attributed to Chrysippus this description of the world: ἔμψυχος ὢν ἀλλὰ καὶ νοερός, πρὸς δὲ καὶ φρόνιμος.... The evidence, then, suggests that πῦρ φρόνιμον is of Stoic origin: and Reinhardt's case against this concludes lamely with an appeal back to our passage of Hippolytus—which was the original imponderable. Whether Heraclitus did in fact call his fire

rational or not will be discussed under frr. 41 and 32 in Group 12. There is no doubt that Diogenes of Apollonia attributed νόησις to air (fr. 5), and that for him soul consisted of *warmer* air; Heraclitus too thought the soul (the seat of reason) to be fiery, and though he may not have assigned reason to all fire, it would not be surprising in itself if he did to some.

To turn specifically to fr. 64: that this is a genuine and reasonably accurate quotation from Heraclitus is confirmed by Philodemus *de piet.* 6a (p. 70 Gomperz): ...καὶ τ[ὸν κόσμο]ν ἐν οἷς φησι δ[ιχῶ]ς· Κεραυνὸς π[άντ' οἰα]κίζει καὶ Ζ[εύς· συμβ]αίνει δὲ κα[ὶ τά]ναντία θε[ῖα θε]ῖναι νύκτα *** (restit. Crönert, Diels). The latter part of this passage probably begins a version of fr. 67; fr. 64, at any rate, is unmistakable. Evidently Philodemus had πάντα, not τὰ δὲ πάντα as in Hippolytus: but τὰ πάντα is found in fr. 90, and Heraclitus may have been addicted to this use of the article. δέ cannot be due to Hippolytus and may belong to the original form of the fragment, thus suggesting that it was not an isolated saying; it may, however, have been added by Hippolytus' source. The most interesting thing in the Philodemus version is the addition ΚΑΙΖ[: the restoration καὶ Ζεύς seems almost inevitable, as does the attachment of these words to fr. 64 rather than to what follows. Doubtless καὶ Ζεύς is only interpretation—one thinks of the statement that πόλεμος and Ζεύς are the same, later in the same treatise of Philodemus (14, 26: p. 81G.); this is presumably based on the use of a phrase normally descriptive of Zeus, πατὴρ πάντων, to apply to war in fr. 53; similarly here the mention of the conventional weapon of Zeus, the thunderbolt, leads to the addition of its owner's name. It has been maintained, however, that κεραυνός in the fragment is simply a name for Zeus. The evidence for this is as follows: a fifth-century B.C. inscription from Mantinea, ΔΙΟΣ | ΚΕΡΑVΝΟ (*IG* v, 2, 288 p. 58; v. Usener *Kl. Schriften* 4, 471ff. = *Rh.M.* 60 (1905) 1ff.); a Hellenistic inscription from Homs, ΚΕΡΑϹ Νω (*Rev. Arch.* 3rd series, 40, 388); Κεραυνοῦ as the title of Orphic Hymn XIX; the cult of Κεραυνός at Seleuceia in Pieria initiated by Seleucus Nicator (*c.* 358–280 B.C.), cf. Appian *Syr.* 58; and, less important perhaps, the variant version to Hesiod *Theog.* 886ff. *ap.* Galen *de Hipp. et Plat. plac.* III, 8, of which line 14 is as follows: (Ζεὺς) δείσας μὴ τέξῃ [sc. Metis] κρατερώτερον ἄλλο κεραυνοῦ. Here Weil and Usener write Κεραυνοῦ: but it is perfectly possible that

what Zeus was afraid of was that Metis should bear a son stronger than, i.e. able to resist, the thunderbolt on the use of which Zeus' authority depended (cf. Pindar *Isthm.* VIII, 32ff.; Aesch. *P.V.* 922). It is most unlikely that the name Κεραυνός should be applied by Zeus to himself. And so even if this variant version is an early one, it still provides no evidence that κεραυνός by itself could be used *in place of* Ζεύς; this was a Hellenistic development—in the fifth-century inscription it is notable that Zeus is named as well as Κεραυνός. The Orphic hymn, of course, cannot be of pre-Hellenistic composition. In sum it seems unlikely that in Heraclitus fr. 64 we should write (with DK) Κεραυνός with a capital letter, and accept this as a name for Zeus. Still more unlikely is Reinhardt's theory (*Parmenides* 198f.) that there is a reference in the fragment to an Orphic belief that the thunderbolt is the instrument of fate, by which the soul is propelled into the circle of births as punishment for defilement (cf. the Orphic tablets from Thurii of the late fourth or third century B.C.: *I.G.* XIV, 641, 1–2 = DK 1B18–19. Lines 5–6 of the second of these are as follows: εἴτε με Μοῖρα ἐδαμάσσατο(?) *** στεροπῆτι κεραυνῷ, for which Reinhardt suggested...ἐδάμασσ⟨ο⟩' ἄτο⟨ς⟩ στεροπῆτι κεραυνῷ). The suggestion that Heraclitus thought of matter as undergoing an analogous cycle at the instance of fate is ingenious rather than plausible, especially in view of the probably later date of these Orphic ideas, and the fact that, in spite of the contentions of Nestle and others, Orphic influence is not otherwise apparent in Heraclitus.

The simplest account of the meaning of the fragment is perhaps that of Gigon 145f., that κεραυνός is the mythical weapon of Zeus, and that what we are intended to conclude from the saying is that god is the motivator of all things. That Heraclitus was prepared to use the language of traditional religion is shown by fr. 32. Gigon further relates fr. 64 to fr. 11, 'every creeping thing is driven to pasture with a blow': in the case of the whole world the motivating blow is given not by a prick or goad, but by the all-powerful, directing weapon of the highest god; this is a different and higher symbol. The thunderbolt, too, is Zeus' weapon of war: as such it may be the underlying cause of the 'war' which is essential to the continuation of the world (cf. Group 8). This interpretation is partly based upon Cleanthes *Hymn to Zeus* 9ff.: see p. 259f., where it is shown that the connexion between κεραυνός and πληγή in Cleanthes

is due not to an interpretation of fr. 64 in the sense of fr. 11, but to a technical Stoic sense of πληγή and its connexion with fire, represented also by κεραυνός. Gigon's interpretation, then, must stand or fall on its own merits; these are not inconsiderable, but I think he is too quick to reject another possibility, and one which is supported by Cleanthes' predication of ἀειζώοντα of κεραυνόν: namely, that 'thunderbolt' is simply a symbol for fire, and that Heraclitus means only to assert that fire (and not Zeus, or the deity, or fate) steers all things, in the sense of 'is responsible for the way in which all things behave'. Gigon 145 objects that 'a simple identification *Urfeuer*-κεραυνός is unthinkable. The kosmos *is* fire and is not steered by fire.' This is not so true as it looks: we saw under fr. 90 that Heraclitus sometimes, for the purpose of argument, dissociates fire from the world of which it forms a part, as he does indeed in fr. 31, where fire is implied to be logically separable from its τροπαί. In fr. 30, admittedly, the cosmos *is* an ever-living fire, but one part of the cosmos (i.e. the sky and the heavenly bodies) is more truly fire at any one time than other parts (i.e. sea and earth)—it is *kindled* fire as opposed to extinguished, dormant, or 'dead' fire. Thus it seems legitimate for Heraclitus to have said that fire steers all things, and this may be thought preferable to other interpretations. Quite apart from any possibility that Heraclitus considered fire (not all, perhaps, but the purest and aitherial sort) to be rational—which is indeed implied in the metaphor οἰακίζει, though here it might be only the mechanical aspect of the operation of steering which is stressed—it is probable enough that this fragment may be understood in the light of the physical 'turnings' of fr. 31: the preservation of the μέτρα in the changes of fire to sea and earth is in a sense due to the nature of fire itself (here we have to think of fire as itself *exemplifying* regularity of exchange, from fuel to smoke), and so those changes, and the variegated bodies that result from them, are in a sense due to the 'steering' of fire.—That κεραυνός, thunderbolt, may stand as a name for fire in general, or perhaps for celestial fire in particular,[1] is indicated first by the fact that this is how the thunderbolt was primarily thought of (witness its common epithet πυρφόρος in fifth-century

[1] Cleanthes probably considered that lightning belonged to the pure and creative fire which the Stoics distinguished from everyday fire (see the quotation from Cicero *N.D.* on p. 353): so Pohlenz *Hermes* 75 (1940) 119, citing Dion Prus. *Or.* 36, 56.

literature, e.g. Pindar *Nem.* x, 71; Aesch. *Septem* 444; Soph. *O.T.* 200, *O.C.* 1658); and secondly by Heraclitus' analogous use of πρηστήρ in fr. 31 as a name for fire (though it must be admitted that the plausibility of that interpretation was supported partly by reference to the present case): 'burner' and 'thunderbolt' are sobriquets of a rather similar order.

The significance of the next fragment, 65, is unfortunately even less easy to determine with any degree of confidence. All that can be assigned to Heraclitus are the two words χρησμοσύνη and κόρος. The former is rather rare; it usually means 'need', 'lack', 'poverty', and occurs in pre-Hellenistic literature only at Tyrtaeus fr. 6, 8 Diehl and (in the sense 'importunity') at Hdt. IX, 33. κόρος, of course, means 'satiety', sometimes with the sense of surfeit: it occurs in two other fragments of Heraclitus (67 and 111), on both occasions in opposition to λιμός as an illustration of the opposite-doctrine. In identifying 'deprivation' with the world-forming process, 'satiety' with the ecpyrosis (which is used for the state of total fire as well as for the process of consumption leading to this state), Hippolytus is simply following a well-known Stoic interpretation, though he of course takes ecpyrosis to refer to the Christian purging by fire. This is clearly indicated by the following passages: Philo *de spec. legg.* I, 208 (v, p. 50 Cohn) ἡ δὲ εἰς μέλη τοῦ ζῴου διανομὴ δηλοῖ ἤτοι ὡς ἓν τὰ πάντα ἢ ὅτι ἐξ ἑνός τε καὶ εἰς ἕν, ὅπερ οἱ μὲν κόρον καὶ χρησμοσύνην ἐκάλεσαν, οἱ δ' ἐκπύρωσιν καὶ διακόσμησιν, ἐκπύρωσιν μὲν κατὰ τὴν τοῦ θερμοῦ δυναστείαν τῶν ἄλλων ἐπικρατήσαντος, διακόσμησιν δὲ κατὰ τὴν τῶν τεττάρων στοιχείων ἰσονομίαν, ἣν ἀντιδιδόασιν ἀλλήλοις. (Cf. *idem*, *Leg. alleg.* III, 7 (I, p. 114 Cohn) ...'Ηρακλειτείου δόξης ἑταῖρος, κόρον καὶ χρησμοσύνην καὶ ἓν τὸ πᾶν καὶ πάντα ἀμοιβῇ εἰσάγων.) Plutarch *de E* 9, 389C ἐπεὶ δ' οὐκ ἴσος ὁ τῶν περιόδων ἐν ταῖς μεταβολαῖς χρόνος, ἀλλὰ μείζων ὁ τῆς ἑτέρας ἣν "κόρον" καλοῦσιν, ὁ δὲ τῆς χρησμοσύνης ἐλάττων...ὅπερ τρία πρὸς ἕν, τοῦτο τὴν διακόσμησιν οἰόμενοι χρόνῳ πρὸς τὴν ἐκπύρωσιν εἶναι. In the main Philo passage those who talk about κόρος and χρησμοσύνη are distinguished from those who use the names ἐκπύρωσις and διακόσμησις: the former pair are formally attributed to Heraclitus in the *Leg. alleg.* passage, while the latter are explained in the first context in terms of four elements and obviously belong to the Stoics (though the ἰσονομία assigned to those elements may suggest a reminiscence of Heraclitus' measures,

or of fifth-century philosophy in general). Plutarch, again, is obviously drawing on a Stoic source; the ratio of 3 to 1 for the length of ecpyrosis and cosmogony may be his own, rather than a Stoic, invention—it rests of course on the 3-month tenure of Dionysus at Delphi as compared with the 9-month tenure of Apollo, and need not be taken seriously. The objections to the ecpyrosis-interpretation of Heraclitus have already been stated (pp. 335ff.) and need not be repeated: the two words of fr. 65 can hardly be held to be a serious support for that interpretation. How they came to be applied to it by the Stoics we can only guess. The presumption is that they were originally somehow connected with fire, otherwise there would have been no cause whatsoever for the Stoic identification. Presumably, too, they originally referred to the cosmological changes of matter, which the Stoics following Theophrastus understood to refer to world-periods. That they are not simply developed out of the opposition κόρος–λιμός in frr. 67 and 111 is suggested by the rarity of χρησμοσύνη, which would not be accidentally substituted for λιμός: λιμός indeed would be unsuitable if the opposition came not in an anthropological context (as in fr. 111) but in a cosmological one. Here we may note Hippolytus' expression καλεῖ δὲ αὐτὸ [sc. πῦρ] χρησμοσύνην κ.κ.: this has led Gigon 49, followed by Walzer ad fr., to restore the fragment as ⟨πῦρ⟩· χρησμοσύνη κόρος, ⟨πόλεμος εἰρήνη⟩—the last pair being an ill-judged deduction from the appearance of war and peace in fr. 67 and the fact that in Diog. L. IX, 8, after Theophrastus, it is said that Heraclitus called the process leading to cosmogony πόλεμος, that leading to ecpyrosis εἰρήνη. This of course is an extension in the light of Empedocles of Heraclitus' emphasis on 'war' as the essential condition for the existence of our cosmos. But even πῦρ· χρησμοσύνη κόρος may be too bold a connexion. Hippolytus' καλεῖ need not signify accurate quotation and the predication which this would imply (see Reinhardt *Hermes* 77 (1942) 22 n. 3), and there are difficulties in the statement that fire *is* deprivation and satiety, even if there is less precision in the apposition than the identity implied by the English 'is'. Even on the ecpyrosis-interpretation accepted by Gigon, fire cannot be satiety, though there may be said to be a satiety *of* fire if all things become fire, and it may suffer a deprivation when parts of it change into a world. On the other hand, just as god is the opposites in fr. 67, so might fire be called the opposites; but

the absolute identification of fire and god is difficult, and this would hardly explain the Stoic application of the fragment to world-periods. If we continue to assume that this application must have arisen out of an original application of χρησμοσύνη and κόρος to the cosmological τροπαί in the sense of fr. 31, then it may be the case that 'satiety' described the world viewed as a whole, all of which is essentially fire though measures of this fire have been extinguished into sea and earth; while 'deprivation' describes the same situation from a different point of view (cf. fr. 10), according to which the pure, unextinguished fire 'lacks' those parts which have undergone τροπαί to sea and earth. Alternatively, the two opposites may indeed be successive, not relative (in either case they are essentially connected): the 'lack' may refer to the measures which have to be restored, for example, when a portion of sea turns to earth; the subsequent κόρος, meaning in this case positive 'surfeit' rather than mere satiety, might indicate a state in which the sum of sea had become temporarily too great by the accretion of extinguished fire, so that equivalent measures turn into earth and relieve the surfeit, only to cause a corresponding lack. In this case 'surfeit' and 'lack' could apply to any of the three world-masses, including fire, or to the 'turnings' of fire in general. These suggested explanations are obviously speculative, but they may be on the right lines: what is probable is that 'satiety' and 'deprivation' were intended to describe or qualify not cosmogonical, but cosmological and continuous alterations of things. Whether they applied to fire as the whole world-order, or to the unchanged aitherial fire within that order, and whether they were applied successively or simultaneously, must remain in doubt. See also p. 361 n.

There remains to be considered the sentence πάντα γάρ, φησί, τὸ πῦρ ἐπελθὸν κρινεῖ καὶ καταλήψεται: this has normally been accepted as a fragment (= fr. 66D, 26B), even by Burnet, who was forced to maintain that it did not necessarily imply that fire overtakes all things at once. But Reinhardt (*Parmenides* 164ff. and, more circumspectly, *Hermes* 77 (1942) 22ff.) has now demonstrated almost conclusively that the words belong to Hippolytus, and are simply a recapitulation of his κόσμου κρίσις interpretation of the Stoic ἐκπύρωσις interpretation of Heraclitus. (i) φησί in Hippolytus does not necessarily introduce a quotation, but is often explanatory and implies no more than 'means': cf., for example, his explanation of

Empedocles fr. 6 at *Ref.* VII, 29, 6 (p. 211, 5 W.), εἰ γὰρ ἔτρεφε, φησίν, οὐκ ἄν ποτε λιμῷ κατελήφθη τὰ ζῷα...διὰ τοῦτο Νῆστιν καλεῖ τὸ ὕδωρ (cf. also *Ref.* VI, 26, 2 (p. 153 W.); VII, 29, 20 (p. 213 W.); and Clement *Strom.* I, 182, I (II, p. 111, 20 St.); V, 18, 4 (II, p. 338, 4 St.)). (ii) In this chapter of Hippolytus every quotation is followed by an exegesis, but there is no exegesis to this so-called fragment, which is in fact a further expansion of Clement's interpretation of κόρος in fr. 65. (iii) The verbs ἐπέρχεσθαι, κρίνειν (meaning 'to judge' with a direct object), and καταλαμβάνειν are all frequently used in Christian eschatological contexts: cf. Hippolytus *Ref.* X, 34, 2 (p. 292 W.) ...ἐκφεύξεσθε ἐπερχομένην πυρὸς κρίσεως ἀπειλήν; II Timothy IV, I κρίνειν ζῶντας καὶ νεκρούς; *Ref.* VI, 31, I (p. 158 W.) φθορά τις καταλήψεται οὐκ εἰς μακράν ποτε τοὺς αἰῶνας (cf. also *Ref.* VII, 27, 3 (p. 206, 14 W.)). On the other hand, κρίνειν with the personal object meaning 'condemn' is rare before Christian literature (LSJ s.v. III, 3 cites only Demosth. XIX, 232; IV, 47); otherwise the word has to mean 'bring to trial'. As for καταλαμβάνειν, Reinhardt is probably right (*Parmenides* 165) in his contention that κατα- here does not imply 'condemnation', as in καταγιγνώσκειν, κατακρίνειν, etc.; nevertheless, the verb gains the sense of 'convict', as a development in the juristic sense of its general meaning 'overtake' or 'seize'. Reinhardt is wrong in denying this sense of the word, cf., for example, a fifth-century inscription from Erythrae (*Rev. de Philol.* (1928) 192)...διώξιν δ' ἔναι τῶι βολομένωι καὶ ἢγ καταλάβηι ἔναι τῶμυσυ τõ διώξαντος... (καταλάβη = 'gains a conviction'). Thus the sentence, if it were by Heraclitus, would probably have to mean 'fire having come suddenly upon all things will bring them to trial and secure their conviction'. Yet the combination of verbs is unusual, and the resulting meaning is hardly incisive enough to justify the complex juristic metaphor. The diction, in fact, is un-Heraclitean and typically Christian:[1] it explains the κόσμου κρίσιν already referred to in the context (cf. also *Ref.* VI, 9, 3 (p. 136 W.)). The application of a Christian eschatological sense to Heraclitus' fire

[1] Gigon 130 accepts Reinhardt's somewhat too drastic criticism of κρινεῖ, but maintains that the rest of the sentence, i.e. πάντα τὸ πῦρ ἐπελθὸν καταλήψεται, is genuine. Even so an explanation on the level of fr. 28 is difficult, for καταλαμβάνειν in the legalistic sense is appropriate with δίκη but not with πῦρ. ἐπελθόν appears weak, but would have some point if it referred to the successive τροπαί of fire.

is shown also by Themistius, *in An. post.* p. 86f. Wallies: ὥσπερ Ἡράκλειτος τὸ πῦρ οἴεται μόνον στοιχεῖον καὶ ἐκ τούτου γεγονέναι τὸ πᾶν· ἐντεῦθεν γὰρ ἡμᾶς καὶ δεδίττεται, συμφλεγήσεσθαί ποτε τὸ πᾶν ἀπειλῶν.... A more important parallel is provided by Clement *Strom.* V, 9, 3 (II, p. 331, 21 St.): ...καὶ μέντοι καὶ Δίκη καταλήψεται ψευδῶν τέκτονας καὶ μάρτυρας [this forms the second part of Heraclitus fr. 28], ὁ Ἐφέσιός φησιν. οἶδεν γὰρ καὶ οὗτος ἐκ τῆς βαρβάρου φιλοσοφίας μαθὼν τὴν διὰ πυρὸς κάθαρσιν τῶν κακῶς βεβιωκότων, ἣν ὕστερον ἐκπύρωσιν ἐκάλεσαν οἱ Στωικοί. This demonstrates in brief how Heraclitus' fire was adapted to Christian needs by the medium of the Stoa; but it does more than this, for Clement evidently interprets καταλήψεται in fr. 28 (= 'overtake') in the precise eschatological sense in which the word is used by Hippolytus. There may very well be, in our passage of Hippolytus, a legitimate reminiscence of Heraclitus' use (also eschatological, though with different implications) of καταλήψεται in fr. 28—a use which is primarily legalistic and can properly be applied to Δίκη or its officers. If so, Hippolytus is probably dependent here upon the same Stoic source as Clement.[1]

[1] To revert to fr. 65: it is possible that in the words χρησμοσύνη and κόρος Heraclitus was referring to Anaximander's metaphor of the mutual encroachment and subsequent retribution of the world-masses. κόρος would describe the state of ἀδικία, while χρησμοσύνη calls for 'retribution and punishment', δίκην καὶ τίσιν.—On fr. 66D (pp. 359ff.), M. Marcovich now has some observations in its defence: 'On Heraclitus' fr. 66 DK' (Mérida, Venezuela, 1959).

16

(27 B)

Clement *Paedagogus* II, 99, 5 (I, p. 216, 28 St.) λήσεται μὲν γὰρ ἴσως τὸ αἰσθητὸν φῶς τις, τὸ δὲ νοητὸν ἀδύνατόν ἐστιν, ἢ ὥς φησιν Ἡράκλειτος· **τὸ μὴ δῦνόν ποτε πῶς ἄν τις λάθοι;** μηδαμῶς τοίνυν ἐπικαλυπτώμεθα τὸ σκότος....

For perhaps one will escape the notice of the perceptible light, but of the intelligible light it is impossible so to do, or as Heraclitus says: How could anyone escape the notice of that which never sets? *In no way, then, let us cover ourselves in darkness....*

Cornutus, *Compendium* XI, after a reference to the all-seeing eye of Zeus, asks πῶς γὰρ οἷόν τέ ἐστι τὴν διὰ πάντων διήκουσαν δύναμιν λανθάνειν τι τῶν ἐν τῷ κόσμῳ γενομένων; It is just conceivable that this contains a reminiscence of the present fragment; another reminiscence is possible in the *Cratylus* passage discussed below; but beyond this Clement is our sole testimony. There is no reason to disbelieve him; as far as can be judged from his other quotations from Heraclitus, and indeed from all other Greek authors, he is reasonably accurate—liable perhaps to combine two quotations without warning (fr. 28), or to interpose an explanation (fr. 20), but only occasionally, as perhaps in fr. 14, to mislead the reader seriously about the extent of the quotation. In the present fragment there is little scope for any of these faults, and it must be accepted as it stands. On the other hand, Clement's interpretation of it is of little or no value as such. He evidently extracted from his source for Heraclitus all the sayings to which a Christian eschatological sense could possibly be attached; with this motive he quotes frr. 24, 25, 27, 28, 30, 31. The last two of these, at all events, were plainly not intended by Heraclitus in the sense in which Clement interprets them, to refer to a κόσμου κρίσις διὰ πυρός: it is therefore quite possible that fr. 16 too did not originally refer to an omniscient and avenging power, even if the context of the fragment suggests that its original application must have been of this kind. Clement's suggestion that the subject of τὸ μὴ δῦνόν ποτε is φῶς is, in itself,

worthless. 'That which never sets' was presumably contrasted, explicitly or implicitly, with that which *does* set—that is, one of the heavenly bodies: for δύνειν is regularly used of the setting of the sun, moon and stars. The second part of the fragment shows that the sun and not the moon or any star is meant, for 'noticing' things was the particular prerogative of Helios, who sees and hears all things upon earth (πάντ' ἐφορᾷς καὶ πάντ' ἐπακούεις, *Il.* III, 277, cf. *Od.* XI, 109) and who for that reason was regularly invoked as a witness of oaths. At night, however, the sun sailed round the river of Okeanos out of sight, and would not therefore observe infractions of an oath; this was not a general modification, but perhaps a literal and personal comment by Heraclitus. The fragment suggests that he had posited something more permanent and all-seeing than the sun, something which never sets: something which, though not necessarily fully rational, at least had the power of perception; otherwise the word λανθάνειν could scarcely have been used of it. (The neuter form does not necessarily imply that it is a thing rather than a person—here, obviously, a deity; it could be that a neutral aspect, i.e. an unusual power of perception, is emphasized at the expense of personal aspects.) Here the Cornutus passage is relevant: τὴν διὰ πάντων διήκουσαν δύναμιν shows the Stoic inclinations of the author and presumably refers to πῦρ νοερόν or some similar form of the divine power, cf., for example, Aëtius I, 7, 33 (*SVF* II, 1027) οἱ Στωικοὶ νοερὸν θεὸν ἀποφαίνονται, πῦρ τεχνικὸν...καὶ πνεῦμα μὲν διῆκον δι' ὅλου τοῦ κόσμου. The all-seeing is the deity—perhaps Zeus himself, Ζεὺς...ὅς τε καὶ ἄλλους | ἀνθρώπους ἐφορᾷ καὶ τίνυται ὅς τις ἁμάρτῃ (*Od.* XIII, 213 f.), Ζεὺς ὃς ἐφορᾷ πάντα (Soph. *El.* 175); or perhaps the fire which the Stoics followed Heraclitus in endowing with divinity, and which according to Plato certain 'believers in flux' distinguished carefully from the sun for the very reason that it did *not* set: *Cratylus* 413 B, C [Socrates is discussing, not wholly seriously, the derivation of δίκαιον on the assumption that words point to a flux of all things] ὁ μὲν γάρ τίς φησιν τοῦτο εἶναι δίκαιον, τὸν ἥλιον· τοῦτον γὰρ μόνον διαϊόντα καὶ κάοντα ἐπιτροπεύειν τὰ ὄντα. ἐπειδὰν οὖν τῳ λέγω αὐτὸ ἄσμενος ὡς καλόν τι ἀκηκοώς, καταγελᾷ μου οὗτος ἀκούσας καὶ ἐρωτᾷ εἰ οὐδὲν δίκαιον οἶμαι εἶναι ἐν τοῖς ἀνθρώποις ἐπειδὰν ὁ ἥλιος δύῃ. λιπαροῦντος οὖν ἐμοῦ ὅ τι αὖ ἐκεῖνος λέγει αὐτό, τὸ πῦρ φησιν· τοῦτο δ' οὐ ῥᾴδιόν ἐστιν εἰδέναι. ὁ δὲ οὐκ αὐτὸ τὸ πῦρ φησιν, ἀλλ' αὐτὸ τὸ θερμὸν τὸ ἐν τῷ πυρὶ ἐνόν. It is likely enough that there is

some reference here to Heraclitean ideas, and it is possible that ἐπειδὰν ὁ ἥλιος δύῃ refers to this fragment. If this is so, then the amendment that 'justice' is not the sun, but fire, may reproduce what Heraclitus actually said; the further restriction that the heat should be distinguished from fire may be intended to refer rather to Diogenes of Apollonia. Unfortunately, in these quasi-jocular passages of Plato, in which the *Cratylus* and *Theaetetus* particularly abound, it is impossible to be sure what is simply invented, what adapted, and what accurately reproduced from historical predecessors.

It may be legitimate to conjecture, however, that 'that which never sets' is either fire or Zeus, and that either one or the other is contrasted with the sun. This would accord with the possible references in Plato and Cornutus. Between fire and Zeus there is less difference than might appear: the subject of fr. 32, which 'is willing and unwilling to be called Zeus', must be closely related to if not identical with fire (p. 396). In using the name Zeus Heraclitus is conceding that in some respects the traditional religion has hit upon the truth (perhaps accidentally): the Zeus of Homer sees all things, as does the subject of Heraclitus' fragment. The point of the fragment is still conjectural; Gigon 130 followed an established interpretation in taking it closely with fr. 66D (which is discussed, and rejected as a genuine quotation, after fr. 65) as a reference to the ecpyrosis—fire will come upon all things, none will escape its notice. But the personal τις (as opposed to τι in Cornutus: Gataker proposed emending to τι) is against any explanation in terms of physical, cosmic changes. It relates the activity of τὸ μὴ δῦνον to mankind, and so makes it probable that the fragment is analogous to the second part of fr. 28, also quoted by Clement in a similar context: Δίκη καταλήψεται ψευδῶν τέκτονας καὶ μάρτυρας (καταλήψεται in pseudo-fr. 66 may be a reminiscence of this: that is the limit of the connexion between frr. 16 and 66D). Thus fr. 16 may well be part of an attack upon liars, upon Heraclitus' opponents who do not recognize the Logos: if so, it only bears indirectly upon his physical theories. Here it may be recalled that in the *Cratylus* passage Socrates' informants give the sun, or fire, as equivalents for δίκαιον; yet the intermediary derivation of δίκαιον from διαϊόν may be due not to any Heraclitean but to Plato himself, sun, fire and heat being explanations merely of his λεπτότατόν τε καὶ τάχιστον which controls (ἐπιτροπεύει: cf. fr. 64) all things. Or conceivably Heraclitus

did try verbally to relate Δίκη in fr. 28 with τὸ μὴ δῦνον in fr. 16. At any rate Δίκη and Ζεύς are closely connected in popular thought: in fr. 94 it is Dike's assistants who see that the μέτρα of the sun are preserved; Hesiod, *Erga* 256ff., tells us that Dike sits by Zeus' throne and 'oversees the affairs of men', a view ascribed to Orpheus at Demosth. XXV, 11. In frr. 28 and 32 (as also in 94) Heraclitus is content to use symbols derived from popular mythology to express his meaning: it may be that in fr. 16 also (where one such symbol, the sun, is implicitly rejected) he meant to go further and to express the concept of Dike more exactly in terms of his own special theories. In this case he might have meant fire as subject of τὸ μὴ δῦνον—not fire in its aspect of the whole κόσμος, but as the particular source of the πυρὸς τροπαί in fr. 31, as basis and regulator (cf. Reinhardt, *Hermes* 77 (1942) 244) of the continual cosmological changes. This fire is the same as 'thunderbolt' which steers all things (fr. 64): there too it has motive, if not rational, capacity, and there too, like Zeus himself and like all cosmic fire, it is permanent and 'does not set'. For Heraclitus, πῦρ has three applications: (i) to the world-order as a whole; (ii) to 'unextinguished' fire in cosmological changes, i.e. that which has not turned to sea or earth, and which remains in the οὐρανός; (iii) to the motive and directive fire of fr. 64 (and perhaps fr. 16): this is perhaps substantially the same as (ii), except that it is not confined to the sky but also permeates things around us, perhaps solely in the form of ψυχή.

This treatment of fr. 16 is obviously more speculative even than most parts of this book; in particular, it must remain quite uncertain whether 'that which does not set' is to be identified with fire or not. The application of the saying is certainly not primarily cosmological, although for Heraclitus the affairs of men could not be dissociated from the structure of the cosmos. The fragment is placed in this group partly because it may bear upon the nature of Heraclitus' fire, partly because of its traditional (and fallacious) connexion with the ecpyrosis-interpretation.[1]

[1] Schleiermacher emended τίς to τίνα, thus giving the fragment this sense: 'how could that which never sets escape the notice of any one?' There is little to be said in favour of this conjecture: if it were correct, the saying might become an attack on Anaximenes (and others), who evidently believed that the sun did not *set* in the true sense, but disappeared behind mountains in the north, cf. Aëtius II, 16, 6; Hippolytus *Ref.* I, 7, 6; Aristotle *Meteor.* B 1, 354a 27.

GROUP 11

Frr. **12** [+ 49ᵃD], **91**

The river-analogy: upon those who step into the same river different waters flow regularly down. The preservation of the river's identity and name, in spite of the constant change of its parts, is due to the regularity and balance of that change, just as the preservation of a κόσμος is due to the μέτρα which govern all meteorological and cosmological change. Plato and all later ancient critics took the river-analogy to apply to changes in every individual thing, and to illustrate the continuity of those changes: actually it illustrates the measure which must inhere in large-scale changes taken as a whole. Heraclitus did not believe, any more than any of his predecessors, that everything was changing all the time, though many things are so changing and everything must eventually change.

12

(42 B)

Arius Didymus *ap.* Eusebium *P.E.* xv, 20 περὶ δὲ ψυχῆς Κλεάνθης μὲν τὰ Ζήνωνος δόγματα παρατιθέμενος πρὸς σύγκρισιν τὴν πρὸς τοὺς ἄλλους φυσικούς φησιν ὅτι Ζήνων τὴν ψυχὴν λέγει αἰσθητικὴν[1] ἀναθυμίασιν καθάπερ Ἡράκλειτος· βουλόμενος γὰρ ἐμφανίσαι ὅτι αἱ ψυχαὶ ἀναθυμιώμεναι νοεραὶ[2] ἀεὶ γίνονται εἴκασεν αὐτὰς τοῖς ποταμοῖς λέγων οὕτως· **ποταμοῖσι τοῖσιν αὐτοῖσιν ἐμβαίνουσιν ἕτερα καὶ ἕτερα ὕδατα ἐπιρρεῖ·** καὶ ψυχαὶ δὲ ἀπὸ τῶν ὑγρῶν ἀναθυμιῶνται. ἀναθυμίασιν μὲν οὖν ὁμοίως τῷ Ἡρακλείτῳ τὴν ψυχὴν ἀναφαίνει Ζήνων, αἰσθητικὴν δὲ αὐτὴν εἶναι διὰ τοῦτο λέγει....

1 αἴσθησιν ἢ codd., em. Wellmann. 2 νεαραὶ Meewaldt.

On the subject of soul Cleanthes, setting out the opinions of Zeno for comparison with the other natural philosophers, says that Zeno is like Heraclitus in calling the soul a percipient exhalation: for Heraclitus, wishing to demonstrate that souls by being exhaled are for ever becoming intelligent, likened them to rivers in these words: Upon those who step into the same rivers different and again different waters flow; *and souls also are exhaled from moisture. Zeno, then, declares the soul an exhalation similarly to Heraclitus, and percipient for the following reason....*

It is almost certainly Cleanthes and not (as Bywater, Burnet, Gigon 104, etc. have always assumed) Zeno who quotes from Heraclitus: Arius tells us quite clearly that Cleanthes cited the doctrines of his master side by side with those of other thinkers—presumably to provide corroboration of Zeno's theories. Zeno described the soul as a percipient exhalation: this, adds Cleanthes, agrees with Heraclitus' description of it, which Cleanthes then quotes. This state of affairs is what might be expected; for although Zeno must have based his physical theories particularly upon Heraclitus' description of fire, he is never named in our sources as having quoted Heraclitus by name; while Cleanthes evidently initiated a detailed examination of Heraclitus with a view to the more careful foundation of Stoic physics upon ancient authority. Diogenes Laertius records that Cleanthes wrote four books of commentaries (ἐξηγήσεις) on

Heraclitus, and there is reason to believe that he made some modification of Zeno's system in the light of his special knowledge of the earlier thinker—in particular, the idea of the sun as τὸ ἡγεμονικόν, and of τόνος; in his version of cosmogony he may have avoided the addition of air to Heraclitus' three world masses. The results of his interest in Heraclitus are shown by the many unmistakable echoes in the *Hymn to Zeus*.

The words in heavy type seem genuine enough: the Ionic datives plural in -οισι, the consistent use of -ν ἐφελκυστικόν, and the archaic repetition of ἕτερα, suggest that these are the original words of Heraclitus; quite apart from dialect forms (which could be and often were faked) the rhythm and phrasing of the sentence lead to the same conclusion. Nearly all editors (Zeller, ZN 797 n. 2, being an honourable exception) have accepted the next sentence, too, as part of the quotation. Here, however, the case is very different: there are no Ionicisms to aid identification as a quotation, and, on the other hand, there is a verb, ἀναθυμιῶνται, which in this compound form does not appear elsewhere before Aristotle. Admittedly Theophrastus and the doxographers attribute the use of this verb to several Presocratic thinkers (including Xenophanes, where its use is unlikely, though possible in uncontracted forms like ἀναθυμιάονται), but this means very little. That the concept of exhalation or evaporation was familiar to them is beyond doubt, but the natural expression of it would be by the noun ἀτμίς, possibly by ἀτμίζειν, and perhaps by the simple verb θυμιᾶσθαι, which is common in fifth-century writers (particularly Herodotus) for the burning of incense, etc. An instance of θυμιᾶσθαι normally assigned to Hipponax (fr. 80 Diehl) is doubtful: all we are told is that the verb appears in a Hipponactian metre. If Heraclitus did indeed use the compound form it is strange that this is the only use of this highly convenient word to survive in over a century.[1] Further, τῶν ὑγρῶν (instead of ὕδατος or e.g. αἵματος, or even τοῦ ὑγροῦ) is not quite what one would expect of Heraclitus: the use of neuter adjectives as substantives in the singular is a favourite one with him (cf., for example, frr. 10, 88, 126), but usually to emphasize the particular attribute of a certain substance in terms of opposites. Yet here the generic expression would stress the common property of e.g. blood and water; so the language can hardly be said to form an insuperable

[1] Wilamowitz, *Hermes* 62 (1927) 276, attacks only the noun-form.

objection to the ascription of καὶ ψυχαὶ...ἀναθυμιῶνται to Heraclitus.

A more substantial difficulty is that of establishing any significant connexion between the river-sentence and the statement that souls are exhaled from moisture. Reinhardt, *Parmenides* 61, and Gigon 28, cf. 104, are satisfied that the quotation from Heraclitus (in which they include καὶ ψυχαὶ...ἀναθυμιῶνται) 'comes from a psychological context', i.e. they assume that this context clarified the link between the two sentences. Yet it is difficult if not impossible to imagine any context which would accomplish this. The river-sentence has nothing whatsoever to do with exhalation; the only formal connexion between the two sentences is the mention in both of moisture or water. Attempts have been made to supply words to the second sentence which would establish a significant link—Capelle (*Hermes* 59 (1924) 121) suggested ⟨ἀεὶ⟩ ἀπὸ τῶν ὑγρῶν κτλ., Gomperz ἀναθυμιῶνται ⟨ἕτεραι καὶ ἕτεραι⟩. The former is the easier omission; the link would then be the continuity of each process, but even so the comparison would be without much point. In any event these additions are superfluous, since Meewaldt's νεαραί achieves the same end much more persuasively (Diels attempted an analogous solution by conjecturing that νοεραί was a corruption of ἕτεραι). The transition is still extremely abrupt, and nothing to help it is really added by νεαραί, the sense of which is already present in ἀεὶ γίνονται. None of these solutions, then, succeeds in giving the whole passage a satisfactory sense, and the 'psychological context' must for the present remain a doubtful hypothesis.

Here it may be helpful briefly to turn aside from the fragment to consider Plato's interpretation of Heraclitus' theory of natural change. This is, in short, that Heraclitus held all things to be in flux like rivers: *Theaet.* 160D κατὰ...Ἡράκλειτον...οἷον ῥεύματα κινεῖσθαι τὰ πάντα; *Crat.* 401D καθ' Ἡράκλειτον ἂν ἡγοῖντο τὰ ὄντα ἰέναι τε πάντα καὶ μένειν οὐδέν; *Crat.* 402A λέγει που Ἡράκλειτος ὅτι πάντα χωρεῖ καὶ οὐδὲν μένει, καὶ ποταμοῦ ῥοῇ ἀπεικάζων τὰ ὄντα λέγει ὡς δὶς ἐς τὸν αὐτὸν ποταμὸν οὐκ ἂν ἐμβαίης. At *Theaet.* 152E Plato humorously attributed a similar doctrine to all early thinkers save Parmenides; but Heraclitus and his followers remained for him the chief serious exponents of these ideas. Aristotle subscribes to Plato's interpretation, *de an.* A 2, 405a28 ἐν κινήσει δ'

εἶναι τὰ ὄντα κἀκεῖνος [sc. 'H.] ᾤετο καὶ οἱ πολλοί; *Topica* A 11, 104b21 ...πάντα κινεῖται καθ' Ἡράκλειτον; and (most notably) *Met.* A 6, 987a32 ...ταῖς Ἡρακλειτείοις δόξαις ὡς ἁπάντων τῶν αἰσθητῶν ἀεὶ ῥεόντων καὶ ἐπιστήμης περὶ αὐτῶν οὐκ οὔσης (the epistemological conclusion being due to Cratylus or Plato himself: on this passage see my article 'The Problem of Cratylus', *AJP* 72 (1951) 243ff.). Now of this doctrine that things are constantly changing like flowing rivers there is no sign whatever in the fragments, apart from this fr. 12 and fr. 91 (in introducing which Plutarch attaches a paraphrase of fr. 12 to the Platonic interpretation). Yet these fragments simply consist of statements about rivers: nothing is said about things in general behaving in the same way (for even if καὶ ψυχαὶ δὲ κτλ. is by Heraclitus this only relates to souls). On the other hand, there is plenty of evidence from the fragments that Heraclitus did *not* deny stability to the natural world; on the contrary, his main purpose seems to be to assert such a stability, which according to him underlies all change, and most notably change between opposites. Thus the Platonic interpretation, which may be summarized in the phrase πάντα ῥεῖ, certainly puts the emphasis in the wrong place; nevertheless, it plainly shows that for Plato (and Aristotle) the river-statements were illustrations of the behaviour of things in general. Now it is on the whole unlikely that Plato *entirely* misinterpreted the application of the river-statements (which may not have been elaborated much beyond our extant frr. 12 and 91), though he may well have misunderstood the precise point of that application. That they had some application, i.e. that Heraclitus recorded this fact about the behaviour of rivers not simply as an isolated observation, but as an illustration or example in a larger argument, goes without saying; though Reinhardt, *Hermes* 77 (1942) 18, is right in emphasizing that there never was anything approaching a *Flusslehre* in Heraclitus himself.

Thus the Platonic application of fr. 12 (a clear paraphrase of which is seen in the δὶς ἐς τὸν αὐτὸν ποταμὸν οὐκ ἂν ἐμβαίης of *Crat.* 402 A) is much wider than its psychological reference according to Cleanthes. Here the greater weight must be attached to Plato's opinion, accepted by Aristotle, and we must regard Cleanthes' statement that Heraclitus compared souls to the rivers mentioned in fr. 12 as partially if not completely misleading: souls may have been included in the objects of comparison, but no more than this. Cleanthes' quotation of fr. 12

at this point, then, accurate as it is, is arbitrary. Yet why did he introduce it at all? for even if καὶ ψυχαὶ κτλ. be attached to it, it still does not illustrate Cleanthes' introductory summary, 'Heraclitus likened souls to rivers'. And yet as an illustration to the main point that Heraclitus held that αἱ ψυχαὶ ἀναθυμιώμεναι νοεραὶ ἀεὶ γίνονται, the appendix, καὶ ψυχαὶ...ἀναθυμιῶνται, is adequate by itself; and what we here accept as fr. 12 is totally irrelevant.[1] This tells against the possibility that Cleanthes quoted two separate sayings of Heraclitus and connected them with a καί (as, for example, Clement did, with the connexion καὶ μέντοι καί, in fr. 28); for there would be no point whatsoever in the first of these quotations. Therefore either Cleanthes must have accepted ποταμοῖσι...ἀναθυμιῶνται as one continuous quotation from Heraclitus—the difficulties of which have already been mentioned—or his quotation ended at ἐπιρρεῖ, and καὶ ψυχαὶ...ἀναθυμιῶνται is intended as another summary of Heraclitus to make Cleanthes' contention still clearer. Now καὶ ψυχαὶ... ἀναθυμιῶνται *could* be a further paraphrase of part of fr. 36, ἐξ ὕδατος δὲ ψυχή. In that fragment soul is put on a par with cosmological fire; the meteorological process by which sea turned to fire in the cosmological πυρὸς τροπαί (fr. 31) was almost certainly evaporation or exhalation; therefore it is possible to conclude that ἐξ ὕδατος δὲ ψυχή, too, represents a change accomplished by exhalation; therefore καὶ ψυχαὶ δὲ ἀπὸ τῶν ὑγρῶν ἀναθυμιῶνται corresponds closely enough with this phrase. One may compare Aëtius' Stoic-perverted assertion, IV, 3, 12 Ἡράκλειτος τὴν μὲν τοῦ κόσμου ψυχὴν ἀναθυμίασιν ἐκ τῶν ἐν αὐτῷ ὑγρῶν, τὴν δὲ ἐν τοῖς ζῴοις ἀπὸ τῆς ἐκτὸς καὶ τῆς ἐν αὐτοῖς ἀναθυμιάσεως, ὁμογενῆ (see also p. 341). There is almost a probability, then, that καὶ ψυχαὶ... ἀναθυμιῶνται is a version in post-Heraclitean language (notice also the use of ὑγρῶν in the passage of Aëtius) of part of fr. 36 or a similar statement. Yet it still remains a problem why Cleanthes quoted the river-statement: can it have seemed to him, in the light of his knowledge that according to Heraclitus souls are exhaled from moisture, to have implied that souls are like rivers? Only, surely, if his mind was more illogical than we have reason to believe. In this case the only remaining explanation is that Cleanthes was using a source in which the river-quotation and the soul-summary were conjoined, and the context in which each originally belonged not

[1] If νεαραί is read (p. 369) the emphasis is slightly but not completely altered.

otherwise indicated: thus he might easily have been led to believe that the connexion between the river-quotation and a statement about souls implied that Heraclitus compared souls to rivers. In other words, Cleanthes believed that ποταμοῖσι...ἀναθυμιῶνται came from a single context in Heraclitus, because he was using as source not Heraclitus himself but some collection of his sayings (both *verbatim* and in paraphrase) which were arranged by the most superficial criteria: thus a remark about τῶν ὑγρῶν became juxtaposed to the river-statement. In this case the καί of καὶ ψυχαὶ δέ is a connective supplied in the source-collection, the δέ perhaps belonging to the original form of the paraphrase of fr. 36. (If, on the other hand, καὶ ψυχαὶ δέ is intended to be logically consequent upon fr. 12, then δέ is probably the connective and καί means 'also'; this no doubt is how Cleanthes interpreted it.)

Plato's version of the main river-statement has already been noted: *Crat.* 402A δὶς ἐς τὸν αὐτὸν ποταμὸν οὐκ ἂν ἐμβαίης. Very similar is the sentiment assigned to Heraclitus in a famous passage of Aristotle, *Met.* Γ 5, 1010a13 [Cratylus] Ἡρακλείτῳ ἐπετίμα εἰπόντι ὅτι δὶς τῷ αὐτῷ ποταμῷ οὐκ ἔστιν ἐμβῆναι· αὐτὸς γὰρ ᾤετο οὐδ' ἅπαξ. Aristotle's version differs only by the use of the simple dative (as in the fragment) instead of ἐς, after ἐμβαίνειν, and of οὐκ ἔστιν with the infinitive instead of the potential optative in the second person singular. This potential construction is paralleled in fr. 45, and it is possible (as Vlastos argues in *AJP* 76 (1955), 338ff.) that the potential construction and δίς belong to an original form of the river-statement. It is also possible that both are paraphrases of fr. 12, Aristotle's being closely modelled on Plato's. That this is so may be suggested by Plutarch, who in different places reproduces both the Aristotelian and the Platonic versions, and combines the latter with a version of the final words of fr. 12. On all this see now, as well as Vlastos *loc. cit.*, Kirk and Raven *The Presocratic Philosophers* 198 n. 2.

(*a*) *de E* 18, 392B	(*b*) *de sera num.* 15, 559C	(*c*) *Qu. nat.* 912A
ποταμῷ γὰρ οὐκ ἔστιν ἐμβῆναι δὶς τῷ αὐτῷ.... (fr. 91 follows). [Aristotelian]	ποταμὸν... εἰς ὃν οὔ φησι δὶς ἐμβῆναι.... [Platonic: ἄν has been omitted in oratio obliqua]	ποταμοῖς [plural form original, cf. fr. 12] γὰρ δὶς τοῖς αὐτοῖς οὐκ ἂν ἐμβαίης [Platonic]...ἕτερα γὰρ ἐπιρρεῖ ὕδατα. [original: cf. fr. 12]

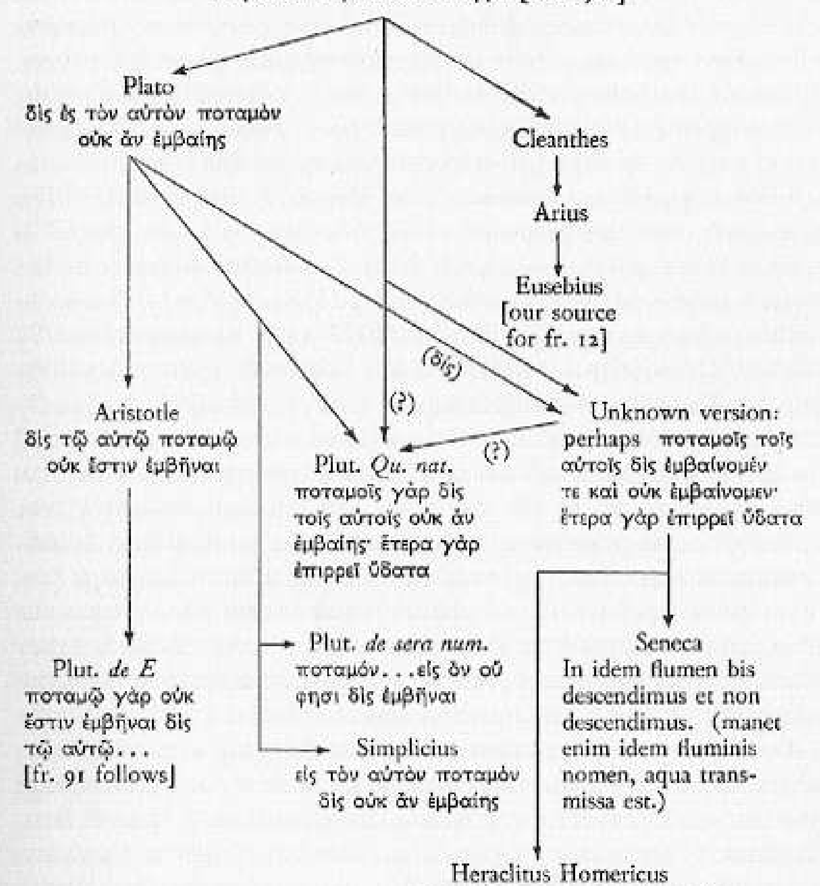
The Platonic paraphrase reappears in two passages of Simplicius (*in Phys.* p. 77, 32 Diels; p. 1313, 11 Diels); there is, however, one version of a river-statement which differs considerably both from fr. 12 and from the Platonic and Aristotelian summaries of it. This is found in Heraclitus Homericus *Qu. Hom.* 24, and is generally accepted as a separate fragment (= fr. 49a Diels, 81B): καὶ πάλιν [sc. Ἡράκλειτός φησι]· ποταμοῖς τοῖς αὐτοῖς ἐμβαίνομέν τε καὶ οὐκ ἐμβαίνομεν, εἶμέν τε καὶ οὐκ εἶμεν. ὅλον τε τὸ περὶ φύσεως αἰνιγματῶδες ἀλληγορεῖ. Reinhardt accepts ἐμβαίνομέν τε καὶ οὐκ ἐμβαίνομεν, at any rate, as Heraclitean (*Hermes* 77 (1942) 19 n.); Diels and Kranz, Zeller and Nestle accept the whole sentence ποταμοῖς...εἶμεν. Zeller explained εἶμέν τε καὶ οὐκ εἶμεν by understanding ⟨οἱ αὐτοί⟩ or ⟨ἐν τοῖς αὐτοῖς ποταμοῖς⟩, the latter sense being approved also by Nestle (ZN 798 n.): both explanations are totally out of the question, for it is absurd to think that in any kind of Greek the predicate could be entirely omitted thus after copulative εἶναι. The phrase in question means 'we exist and do not exist', and as such is very properly abrogated from Heraclitus by Gigon 106f.; an existential judgement of this sort could only be accepted for Heraclitus by those who are content to see him through the eyes of Hegel. Some of Gigon's other objections against the rest of the sentence are also sound: the use of the first person plural to represent an action which is not necessary or universal (in contrast, for example, with fr. 21) is improbable in archaic prose style; and it is extremely unlikely that the ἐμβαίνοντες (who provide the fixed point of observation in fr. 12) should be put on a level with the waters which change. If the flux of rivers is to be applied to change in general, then that change should be asserted in other terms than these of the river-image. However, if εἶμέν τε καὶ οὐκ εἶμεν is segregated as a completely worthless gloss, ἐμβαίνομέν τε καὶ οὐκ ἐμβαίνομεν *could* refer to a change not in 'us' but in the rivers—'the rivers into which we step are the same and not the same'. Yet even this is not a possible summary of anything Heraclitus said, for it asserts that *at any moment* the rivers are the same and not the same: this, as Aristotle tells us, is the belief not of Heraclitus but of Cratylus, αὐτὸς γὰρ ᾤετο οὐδ' ἅπαξ. Possibly we should supply ⟨δίς⟩ with Schleiermacher after the version of Seneca, *Ep.* 58, 23 'Hoc est quod ait Heraclitus: in idem flumen bis descendimus et non descendimus. manet enim idem fluminis nomen, aqua transmissa est.' Calogero, *Giorn. Crit. della Filos. Ital.* 17 (1936)

215 n. 1, accepted Seneca's version as the correct one and therefore rejected Gigon's 'only serious objection' against an original fr. 49ᵃ. It is true that Seneca understands Heraclitus' meaning better than the author of the Homeric allegories, and that both are probably dependent on a slightly earlier common source: but how does 'in idem flumen bis descendimus et non descendimus' differ from the Platonic-Aristotelian summary of fr. 12, e.g. δὶς ἐς τὸν αὐτὸν ποταμὸν οὐκ ἂν ἐμβαίης, except in the use of the first-person-plural construction and the acceptance of what is implicit in fr. 12, but suppressed in the Platonic paraphrase, that the river in one sense remains 'the same'? ἐμβαίνομέν τε καὶ οὐκ ἐμβαίνομεν is similar in form to the well-known οὐκ ἐθέλει καὶ ἐθέλει of fr. 32; this paradoxical form is imitated by the authors of *de victu* and *de nutrimento*, and misinterpreted by Aristotle, e.g. *Met.* Γ 7, 1012a24 ἔοικε δ' ὁ μὲν Ἡρακλείτου λόγος, λέγων πάντα εἶναι καὶ μὴ εἶναι, ἅπαντα ἀληθῆ ποιεῖν—which is very probably the origin of the phrase εἶμέν τε καὶ οὐκ εἶμεν. Nevertheless, the source of Seneca and Heraclitus Homericus may have been aware of the original as well as of the Platonic-Aristotelian version of fr. 12 (just as Plutarch evidently was, in (*c*) above: but can Plutarch here be dependent on the source of Seneca and Heraclitus Homericus?); so much is suggested by the original plural ποταμοῖς in Heraclitus Homericus, and perhaps by 'aqua transmissa est' (corresponding with ἕτερα καὶ ἕτερα ὕδατα ἐπιρρεῖ?) in Seneca.[1] It will be noted that δίς is a consistent feature of the paraphrases from Plato onwards (except in Heraclitus Homericus, where it has to be supplied to avoid a glaring anachronism); it is necessitated by the alteration in the grammatical form of the original.

Thus the sentence quoted so surprisingly by Cleanthes and preserved by way of Arius Didymus and Eusebius seems to be the original river-statement (to which fr. 91 should probably be added; see p. 384) from which the whole πάντα ῥεῖ interpretation with its variant paraphrases was built up. A synopsis of these variants is given on p. 375.

It is now possible to return to the question of what Heraclitus meant by the river-statement. We have already seen that Plato took

[1] There is also a correspondence between the context of Plutarch *de E* 18, 392B (see fr. 91) and the Seneca passage; in both the constant changes undergone by the body are being illustrated. This common τρόπος, possibly reproduced by Heraclitus himself, was revived by the Stoics.



it to mean that 'all things move and nothing stays still', and that Aristotle accepted this view. Plato elaborated it by attributing to the Heracliteans the idea that πάντα δὴ πᾶσαν κίνησιν ἀεὶ κινεῖται (*Theaet.* 182 A), while Aristotle refused this easy method of suppressing an evident uncertainty about the *type* of flux involved, *Phys.* Θ 3, 253b9 καί φασί τινες κινεῖσθαι τῶν ὄντων οὐ τὰ μὲν τὰ δ' οὔ, ἀλλὰ πάντα καὶ ἀεί, ἀλλὰ λανθάνειν τοῦτο τὴν ἡμετέραν αἴσθησιν. πρὸς οὓς καίπερ οὐ διορίζοντας ποίαν κίνησιν λέγουσιν, ἢ πάσας, οὐ χαλεπὸν ἀπαντῆσαι. Now Aristotle here must be referring to the Heracliteans in general, and, presumably (since there is no mention of Cratylus' emendation, that the flux is so extreme as to defeat significant utterance), to Heraclitus in particular. The statement that the perpetual change 'escapes our perception' is particularly significant, since it is the earliest explicit occurrence of an interpretation of Heraclitus followed by Heidel (*Arch. f. Gesch. der Philos.* 19 (1905) 350ff.), Burnet (*EGP* 146), to some extent by Zeller (ZN 801 f.), and others, which is very far indeed from the truth. According to this interpretation everything is constantly changing by an invisible and as it were molecular addition and subtraction of fire, water and earth. This is perhaps contrary to what Heraclitus tells us in the fragments; he believed strongly in the value of sense-perception, providing that it is interpreted intelligently, with φρόνησις, by souls which understand its language (frr. 55, 107, 101 a; cf. frr. 17, 72). His criticism of men is based upon the fact that the truth is there to be observed, is common to all, but they cannot see it: apprehension of the Logos is no abstruse process but the result of using eyes, ears and common sense. Our observation tells us that this table or that rock are *not* changing at every instant; there is nothing in nature to persuade us that they are so changing; the very idea would be repulsive to Heraclitus.[1] Nevertheless, Aristotle's postulation of invisible changes (itself a legitimate deduction from Plato's assertion that according to the Heracliteans 'everything is undergoing every motion all the time') is a logical development of the πάντα ῥεῖ interpretation. Its implausibility is but another sign of the weakness of that interpretation. It was Schuster (p. 201 f.) who first reacted from it, though in the wrong direction; a more fruitful departure was made by Reinhardt,

[1] The above lines are largely taken from my article 'Natural Change in Heraclitus', in *Mind* LX, n.s., no. 237 (Jan. 1951) 35 ff., esp. p. 41.

Parmenides 206 f. According to him (he was of course trying to prove that Heraclitus followed Parmenides and attempted to circumvent his elenchus), the river-statement is simply an image (so also *Hermes* 77 (1942) 18); the dominating idea in Heraclitus is rest in change, not change in apparent stability. Reinhardt's insistence on the idea of the river-statement as a *Gleichnis* was badly stated: of course it is an image, but it must have been an image designed to throw light on some particular belief. Plato took that belief to be that all things are constantly changing. He went beyond Heraclitus in making the river-analogy into a metaphor, not a simile; but his apprehension of the underlying idea is unlikely to have been completely at fault. The mistake he made was one of emphasis; what Heraclitus meant to illustrate in the river-statement was the coincidence between stability (of the whole river) and change (of the waters flowing past a fixed point), rather than continuity of change. Both these aspects are exemplified by rivers, but that the former was the one in which Heraclitus was interested is demonstrated both by the trend of his physical theory in general, and by the form of fr. 12: why the mention of the ἐμβαίνοντες, and of *the same* river, if only the perpetual flow of water was to be stressed? Yet if the two distinct and opposed characteristics of rivers are to be emphasized the mention of their sameness as well as of their flow is necessary, while the mention of a different class of observer from the long-distance or abstract one to whom the river remains unchanged, is desirable; hence 'those who step into it'. Not that this fragment is merely another specific instance of the coincidence of opposites, in this case of 'the same' and 'other': the examples of coincidence are more concrete than this—e.g. summer-winter, the young-the old, the straight-the crooked (regarded not as abstractions but as real things). Those examples are clearly described as such: 'the way up and the way down *is one and the same*', and so on. In addition, the identification of 'same' and 'other' would destroy all differentiation; though this is not an insuperable objection, since on one plane Heraclitus was anxious to do this, i.e. in the ἀφανὴς ἁρμονίη. Fr. 12, then, appears to be an instance of identity of a kind persisting through change. Yet not all change preserves such an identity, and here a special quality of rivers is relevant: only because the waters flow regularly and replace each other by balanced amounts is the identity preserved. This, of course, is precisely the principle of

μέτρον which was detected in the cosmological fragments of Group 10: in the turnings of fire in fr. 31 sea is *measured* into the same *proportion* as previously existed, the cosmic fire is kindled *in measures* and extinguished *in measures* in fr. 30. Only by the preservation of these measures, these quantitative material proportions, can the κόσμος or world-order survive at all. That it does persist is demonstrated by our senses; *how* it persists is learned by apprehension of the Logos, a wider aspect of that μέτρον or measure which characterizes every physical change.

It can be seen now how well this assessment of the significance of the river-statement accords with the cosmological fragments. That the assessment is correct is shown not only by this correspondence, but by the form of the statement itself. The ἐμβαίνοντες provide the fixed point against which the regularity of the passage of water can alone be measured. The repetition ἕτερα καὶ ἕτερα is more than a picturesque paraphrase of ἕτερα ἀεί, since it strongly suggests the *regularity* of this passage; even though ἕτερα has no quantitative meaning its repetition suggests (though no more) exact replacement. This will be confirmed by fr. 91, where a series of pairs of words is attributed to Heraclitus which can only be designed to stress this exact replacement of water in a river.

Nor can it be counted surprising if Plato mistook the emphasis of fr. 12: by itself, or even with fr. 91 attached, and to one who, though he evidently understood one main trend of Heraclitus' thought (*Sophist* 242D, E), was not always interested in exact historical assessments of his predecessors, this fragment alone could lead to the whole πάντα ῥεῖ interpretation. Plato's own interest in the πάντα ῥεῖ theory was an epistemological one: if all things are in flux there can be no ἐπιστήμη—this, surely, was his own deduction, and a vital one in the development of the theory of Forms. According to Aristotle the flux-theory was developed even before Plato, by the eccentric Cratylus (and according to Socrates in the *Theaetetus* by 'those around Ephesus', if they are to be distinguished from Heraclitus himself); but Cratylus in the Platonic dialogue believes primarily in the natural validity of names, and I have suggested (*AJP* 72 (1951) 225ff.) that his reputation as an extreme Heraclitean might be due to a misunderstanding. But whether it was some unknown pre-Platonic follower of Heraclitus, or Cratylus, or Plato himself, who first mistook the emphasis in fr. 12, the fact remains

that for Heraclitus this saying was a corroboration of the determinability of change in nature, not an exaggeration of the extent of that change. The Milesians had all assumed that all things were imbued with a kind of life-principle of movement and alteration, so much so that Theophrastus had assigned to them (misleadingly, it is true) an ἀίδιος κίνησις. Heraclitus, too, must have seen that the world is a place of change, a fact that is immediately obvious to anyone. Even things which are now stable, like mountains, rocks and trees, must eventually perish (though 'death' for him was merely alteration, fr. 36); otherwise the παλίντονος ἁρμονίη which ensured the continuance of change between opposites, and so of the unity which underlay those opposites, would be destroyed, and the κόσμος as such cease to exist. To have said that everything changes, like rivers, would have been for him either an absurdity or a loosely expressed commonplace: what he did say was that natural changes occur in the way that rivers change, i.e. in measures, and thereby maintain in spite of change the unity of the whole κόσμος and the balance of its essential constituents.

Further confirmation of the above interpretation might be provided by an important passage of Aristotle, *Meteor.* B3, 357b27: 'Does the sea always remain numerically one and consisting of the same parts, or is it, too, one in form and volume while its parts are in constant change, like air and sweet water and fire? For each of these is in a constant state of change [literally, "is always becoming other and other", ἀεὶ γὰρ ἄλλο καὶ ἄλλο γίνεται τούτων ἕκαστον], but the form and the quantity of each of them are fixed [accepting Bonitz's καὶ τὸ πλῆθος for τοῦ πλήθους], just as with the flux of flowing waters and the flame [καθάπερ τὸ τῶν ῥεόντων ὑδάτων καὶ τὸ τῆς φλογὸς ῥεῦμα]. The answer is clear, and there is no doubt that the same account holds good of all these things alike. They differ in that some of them change more rapidly or more slowly than others; and they are all involved in a process of perishing and becoming which results for all of them in a regulated manner [τεταγμένως]' (translation after E. W. Webster). There is no mention of Heraclitus here, but the mention of the example of the river, which maintains its 'form' only because its flux is regulated, may well be due to a reminiscence of the real import of the river-statement. The instance is not in itself an abstruse one, and might have occurred to Aristotle independently; but ἄλλο καὶ ἄλλο is strongly reminiscent of ἕτερα

καὶ ἕτερα in fr. 12. What is perhaps particularly significant is that Aristotle links the river with fire; it has been seen that one of the reasons for Heraclitus' assignment of a special position to fire was probably that it patently undergoes regular changes, burning fuel and emitting smoke proportionately and so retaining its stability. The possibility cannot be excluded that Heraclitus himself compared the behaviour of cosmic fire with that of a river; but neither, unfortunately, can it be confirmed any further.[1]

[1] I see no reason to change the above discussion in view of A. Rivier's essay "Le Fragment 12 d'Héraclite," *Un Emploi Archaïque de l'Analogie* (Lausanne, 1952) 9–39. Rivier, who accepts Gigon 104f., attempts to find a genuinely significant connexion between the river statement and καὶ ψυχαὶ δὲ ἀπὸ τῶν ὑγρῶν ἀναθυμιῶνται. In so doing, he argues that ἐμβαίνουσιν is a later addition, that the quotation forms a proportional statement of the type of fr. 79, and that its real aim is to assert the extreme mobility of the soul. I do not believe ἐμβαίνουσιν can be added, for reasons set out in *Museum Helveticum*, 14 (1956) 162f.

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(40B)

Plutarch *de E* 18, 392B ...πᾶσα θνητὴ φύσις ἐν μέσῳ γενέσεως καὶ φθορᾶς γενομένη φάσμα παρέχει καὶ δόκησιν ἀμυδρὰν καὶ ἀβέβαιον αὑτῆς...ποταμῷ γὰρ οὐκ ἔστιν ἐμβῆναι δὶς τῷ αὐτῷ καθ' Ἡράκλειτον, οὐδὲ θνητῆς οὐσίας δὶς ἅψασθαι κατὰ ἕξιν· ἀλλ' ὀξύτητι καὶ τάχει μεταβολῆς **σκίδνησι καὶ** πάλιν **συνάγει**, μᾶλλον δὲ οὐδὲ πάλιν οὐδ' ὕστερον ἀλλ' ἅμα **συνίσταται καὶ ἀπολείπει** καὶ **πρόσεισι καὶ ἄπεισι**· ὅθεν οὐδ' εἰς τὸ εἶναι περαίνει τὸ γιγνόμενον αὐτῆς....

...Every mortal nature, being in the middle of coming-to-be and passing away, provides a phantom, a dim and uncertain apparition of itself...for it is impossible to step twice into the same river according to Heraclitus, or to lay hands twice on mortal substance in a fixed condition: but by the swiftness and speed of its change It scatters and *again* gathers, *or rather not 'again' or 'afterwards', but at the same time* it comes together and flows away, *and* approaches and departs; *therefore its [sc. mortal substance's] becoming does not terminate in being...*

It is obvious that ποταμῷ...τῷ αὐτῷ reproduces the Aristotelian form of Plato's paraphrase of the river-statement (see p. 372), and not (as Bywater, Diels, Kranz and others believed) the original words of Heraclitus. οὐδὲ...κατὰ ἕξιν is an explanation, after Plato, added by Plutarch himself: no one now denies this (though Nestle saw fit to draw attention to an attempt by Brieger to do so, ZN 797 n. 2). Kranz in DK retains Diels' conjecture κατὰ ἕξιν ⟨τῆς αὐτῆς⟩: this is quite unnecessary, since ἕξις (in its Aristotelian-Stoic sense, as Zeller rightly saw) means '*fixed* condition' and therefore implies identity. Plutarch goes on to apply, formally to θνητὴ οὐσία and not to the river, as is shown by the gender of αὐτῆς in τὸ γιγνόμενον αὐτῆς, three pairs of contrasted verbs which are evidently intended to suggest accretion and dispersal. The actions of the first pair are first implied to be successive, by πάλιν, but Plutarch then retracts this as though it were an oversight, and demonstrates the simultaneity of the action by qualifying the remaining pairs by ἅμα. The pairs of

verbs are not in Plutarch's manner, and it has always been assumed, with justification, that some of them at any rate are a quotation; the source is obviously Heraclitus, and it is reasonable to suppose both from the nature of the verbs themselves and from their context that they referred to the behaviour of water in a river. That Plutarch makes them describe the behaviour of 'all mortal substance' is no impediment, since it is clear that he accepts the river of Heraclitus as a symbol for all existence.

As for the separate pairs of verbs, Bywater and Zeller, Diels and Kranz accepted the first and third as genuine, the second as by Plutarch; they regarded πάλιν in πάλιν συνάγει as by Heraclitus, and so thought that not only ἅμα but also the two verbs which followed belonged to Plutarch's correction. But Heraclitus can never have written πάλιν, for the kind of change described—if it applies, as it obviously originally did, to rivers—is not of the type of fr. 88, where τάδε γὰρ μεταπεσόντα ἐκεῖνά ἐστι κἀκεῖνα [πάλιν] μεταπεσόντα ταῦτα: on the contrary, the two opposite states are simultaneous, as in the fragments of Groups 2–4. It is difficult to see what σκίδνησι and συνάγει describe, if they are really intended to be successive; on the other hand, the deliberate but natural error, and then the correction, are in Plutarch's manner and serve effectively to increase the emphasis. Reinhardt (*Parmenides* 207 n.; cf. *Hermes* 77 (1942) 242) argued for the acceptance of συνίσταται καὶ ἀπολείπει, but doubted σκίδνησι καὶ . . . συνάγει, apparently because they contained the offensive πάλιν: he did not see that this could easily have been attached by Plutarch to a perfectly good quotation. I tentatively accept all three pairs of verbs as belonging to Heraclitus, though there is some doubt about the first, as will appear below, for reasons other than the presence of πάλιν.

συνίσταται, ἀπολείπει, πρόσεισι, ἄπεισι, are all intransitive: that is certain. Therefore, as Kranz remarks in DK, σκίδνησι and συνάγει should be intransitive too. Neither, as far as I know, occurs elsewhere intransitively, but Kranz draws comfort from this and remarks 'das ist archaische Ausdrucksform'. This may be so; it may be that we should understand a reflexive. σκίδνημι is an Ionic collateral of the commoner σκεδάννυμι; in the passive it occurs in epic, in Herodotus (e.g. VIII, 23; IX, 80), and occasionally in the Hippocratic corpus; for some reason Plutarch also uses it (and in the active, which is rare) at *de fac. in orb.* 20, 933D and 25, 939C. In both

these contexts there is found also the verb διαχέειν, which occurs, of course, in fr. 31: possibly Plutarch was intentionally using what he knew to be Heraclitean terminology.[1] In the middle or passive σκίδναμαι is unobjectionable and indeed occurs in Parmenides fr. 4, οὔτε σκιδνάμενον πάντῃ πάντως κατὰ κόσμον | οὔτε συνιστάμενον. I do not understand Reinhardt's contention (*Parmenides* 208 n.) that this is not comparable, a criticism which applies more aptly to the parallels *he* adduces for the Stoic usage of σκεδάννυμι, σκέδασις, etc., of the final dissolution of bodies (Marcus Aur. VI, 4; VII, 32, etc.). As for συνάγειν, it was used by Plutarch himself, in the context of our fragment, to describe the compression of water: ὥσπερ ἡ σφοδρὰ περίδραξις ὕδατος, τῷ πιέζειν εἰς ταὐτὸ καὶ συνάγειν, διαρρέον ἀπόλλυσι τὸ περιλαμβανόμενον. This occurrence may have motivated, or been motivated by, the one which follows; it might be argued that Plutarch himself would hardly have used the verb intransitively on the second occasion, after its normal use just before, except in a quotation. Diels pointed to the sixth pseudo-Heraclitean letter, θεὸς ἐν κόσμῳ μεγάλα σώματα ἰατρεύει ἐπανισῶν αὐτῶν τὸ ἄμετρον· τὰ θρυπτόμενα ἑνοποιεῖ, τὰ ὀλισθήσαντα ὑποφθὰς πιέζει, συνάγει τὰ σκιδνάμενα κτλ. One cannot be sure (*contra* Reinhardt) that there is nothing imitative of Heraclitus in this, though the reference to μέτρον is presumably Posidonian. συνάγει here is transitive, as indeed it could be in the fragment except for the parallelism of the other verbs. In that case, the original subject would here have been the river itself; the object, its waters.

συνίσταται καὶ ἀπολείπει, rejected for so long until Reinhardt came to its rescue, is the most obviously Heraclitean phrase of all: both verbs were regularly used by Presocratics, though mainly to describe formation and dissolution (which indeed suits Plutarch's 'mortal substance' better than the river; but they do not appear to be used elsewhere in this way by Plutarch). Cf. Empedocles fr. 17, 3 δοιὴ δὲ θνητῶν γένεσις, δοιὴ δ' ἀπόλειψις; Diog. Ap. fr. 7 τῶν δὲ τὰ μὲν γίνεται, τὰ δὲ ἀπολείπει; Emped. fr. 35, 6 συνιστάμεν' ἄλλοθεν ἄλλα; Diog. Ap. fr. 2 . . . οὔτε ἄλλο γενέσθαι οὐδέν, εἰ μὴ οὕτω συνίστατο ὥστε ταὐτὸ εἶναι. The final pair, πρόσεισι καὶ ἄπεισι, are obviously appropriate to the flow of water past a fixed point, though

[1] Possibly the terminology is Stoic: see Philo *de aet. mundi* 19, VI p. 103, 22 Cohn.

they are also used of material accretion and diminution (in the body) by Plato *Tim.* 42A, καὶ τὸ μὲν προσίοι, τὸ δ' ἀπίοι τοῦ σώματος αὐτῶν; similarly *Tim.* 33C. It is unlikely that Plutarch would have found it necessary to add them as a gloss after a quotation so clear in meaning; rhythmically they complete the material derived from Heraclitus. It is not certain how many of the καί's can be credited to him.

Thus this fragment consists of a string of verbs which probably describe the simultaneous flowing to and flowing away of water past a fixed point in a river. It is possible, even probable, that these verbs belong at the end of fr. 12: ...ἕτερα καὶ ἕτερα ὕδατα ἐπιρρεῖ· σκίδνησι καὶ συνάγει, συνίσταται καὶ ἀπολείπει, πρόσεισι καὶ ἄπεισι. The question whether the first pair can be taken intransitively or not (they must be if used as above) remains. In any event these verbs, if they describe (as they surely must) the movement of water in a river, confirm the interpretation which was placed upon fr. 12, and particularly upon ἕτερα καὶ ἕτερα: what is significant is the exact quantitative balance which must subsist between the water flowing to a fixed point, and that flowing away from it. Only if this μέτρον, analogous to that preserved in the cosmological changes between the three world-masses, is maintained, does the river as such retain its being and its identity.[1]

[1] Kranz refers to the conjecture of Hurth, *de Gregor. Naz. or. funebr.* (Diss. Argent. XII, 1, 57), that the phrase ἔμπεδον οὐδέν in Gregory Naz. *de hum. nat.* 27 (Migne *P.G.* XXXVII, col. 757) and Lucian *Vit. auct.* 14—both Heraclitizing passages—records the words of Heraclitus himself. This is most unlikely: the phrase belongs to the Platonic (possibly 'Heraclitean') trend of interpretation, and it was far from Heraclitus' purpose to deny stability to every separate thing absolutely. The preservation of μέτρα meant for him that things *were*, from one point of view, ἔμπεδα. The lines of Gregory are as follows:

ἔμπεδον οὐδέν· ἔγωγε ῥόος θολεροῦ ποταμοῖο
αἰὲν ἐπερχόμενος ἑσταὸς οὐδὲν ἔχων.
οὔτε δὶς ὃν τὸ πάροιθε ῥόον ποταμοῖο περήσεις
ἔμπαλιν, οὔτε βροτὸν ὄψεαι ὃν τὸ πάρος.

It is interesting to note how often the river-analogy is applied to changes in the human frame, in later versions of Heraclitus; but even then there is no mention of the 'psychological context' assigned by Reinhardt and Gigon to fr. 12.

GROUP 12

Frr. 41 [+112D], 32, 108

Only one activity can be described as genuinely wise, that is, the understanding of the way in which everything in the world is part of an ordered whole: everything is guided along a determinate path so as to produce a complex but essentially unified result. Furthermore, only one entity can have this wisdom to the full, and so be properly called 'wise': this is the divine entity (both 'force' and 'substance' in modern terms) which itself accomplishes the ordering of the whole—fire according to fr. 64, the Logos according to the more analytical approach of the fragments of Group 1. The divine entity corresponds in pre-eminence, power, and intelligence, but in no other respect, with the chief god of the Olympian religion. Human wisdom, which is the same in kind as the divine (and which, judging by fr. 78, was so rarely achieved as to be statistically negligible), is quite separate from other forms of cleverness. It is of greater importance, it may be inferred, because only by possessing it can a man adequately assimilate himself to the ordered whole of which he is a part; and yet it remains within reach of all (Group 1).

41

(19B)

Diogenes Laertius IX, 1 μεγαλόφρων δὲ γέγονε παρ' ὁντιναοῦν καὶ ὑπερόπτης, ὡς καὶ ἐκ τοῦ συγγράμματος αὐτοῦ δῆλον, ἐν ᾧ φησι· πολυμαθίη νόον ἔχειν οὐ διδάσκει... (=fr. 40). εἶναι γὰρ **ἓν τὸ σοφόν· ἐπίστασθαι γνώμην, ὅκη κυβερνᾶται[1] πάντα διὰ πάντων** (seq. fr. 42).

1 ὀτέη κυβερνῆσαι P[1] B: ὅτ' ἐγκυβερνῆσαι F. ὀτέη ἐκυβέρνησε Diels, Kranz: ὀτέη κυβερνᾷ Snell. ἑτεῇ· κυβερνῆσαι Reinhardt. ᾗ κυβερνᾶται Bywater: ὀπῇ κυβερνᾶται coni. Gigon, Walzer: ὀτέη κυβερνᾶται Deichgräber.

He [sc. Heraclitus] grew up to be conceited and scornful beyond anyone else, as is plain also from his book, in which he says 'Learning of many things does not teach sense...' (=fr. 40); for Wisdom is one thing: to be skilled in true judgement, how all things are steered through all (*fr. 42 follows*).

The corruption of the text has given rise to a number of different interpretations of this fragment: all except two agree that τὸ σοφόν here applies primarily to human wisdom. The same phrase, ἓν τὸ σοφόν, occurs also in fr. 32, treated next in this group, and there it must describe divine wisdom or the deity as characterized by wisdom. Th. Gomperz (*Wien. Sitzungsb.* 113 (1886) 1004) held that it was improbable for the same phrase to be used in two different senses by Heraclitus; so also Reinhardt, *Parmenides* 62 n. 1. The latter, *op. cit.* 200, tried to avoid this result by the ingenious conjecture that Diogenes misinterpreted the indirect speech which he found in his source, and supplied εἶναι: the indirect form was ἓν τὸ σοφὸν ἐπίστασθαι, the original direct form was ἓν τὸ σοφὸν ἐπίσταται γνώμην ἑτεῇ· κυβερνῆσαι πάντα διὰ πάντων, which he translates (p. 206) as follows: 'Wahre Einsicht hat allein das Eine, das Allweise, als die da ist: alles durch alles zu regieren.' But ἑτεῇ, though textually possible, is surely impossibly clumsy after ἐπίσταται (or ἐπίστασθαι) γνώμην; and on any other emendation Reinhardt's interpretation becomes impossible. In addition, the infinitive κυβερνῆσαι is

difficult. H. Gomperz (*Wiener St.* 43 (1922–3) 117) was equally ingenious but no more convincing; he proposed that the true subject of εἶναι has to be supplied from the preceding fragment (40) upon which fr. 41 followed directly, in Heraclitus as in Diogenes: εἶναι γὰρ [sc. τὸ νόον ἔχειν] ἓν τὸ σοφὸν ἐπίστασθαι, γνώμην ὀτέη ἐκυβέρνησε κτλ. Now it does in fact seem possible that the two fragments were continuous, certainly in Diogenes' immediate source, which he claims to be Heraclitus' book. The contrast of πολυμαθίη and ἓν τὸ σοφόν does not appear to be accidental: the learning of many things (practised by Hesiod, Pythagoras, etc.) does not teach sense; true wisdom is one (and of one thing). The only difficulty here is the change from direct speech in fr. 40 to indirect in fr. 41; but this is not serious, for in the second fragment the main verb was probably not expressed in the original, and Diogenes was quite at liberty to alter his own construction after φησι from direct to indirect quotation. If the two fragments *were* continuous the second must, like the first, refer to wisdom within the reach of men: this is certainly how Diogenes must have taken it. Deichgräber, *Philologus* 93 (1938–9) 15, showed how the ἓν τὸ σοφόν of fr. 41 might be related to that of fr. 32: true wisdom consists in one thing only, that is, understanding the order of things; this is within the reach of *some* men, and should be the aim of all, though most pursue quite different ends. This wisdom is consistently achieved by Heraclitus' deity, because this entity (perhaps to be identified with fire, though more properly one aspect of fire; cf. fr. 64) actually *accomplishes* the ordering, and so must recognize or understand it. Fragment 78 appears to deny that men can be wise, but its purpose is the distinct one of making men feel how inferior they are to the divine: ἦθος γὰρ ἀνθρώπειον μὲν οὐκ ἔχει γνώμας, θεῖον δὲ ἔχει. This is part of Heraclitus' negative doctrine, the attack on the πολλοί; fr. 41 belongs to the constructive side of his theory, in which he thinks in terms more of his own capacities than those of his contemporaries.

The above interpretation anticipates the assessment of the crux ὅτε{η/γ} κυβερνῆσαι. The reading of F, ὅτ' ἐγκυβερνῆσαι, is out of the question: the η of P[1] B may easily have been corrupted into γ. Diels attempted to preserve ὀτέη, but although ὀτέῳ occurs in fr. 15 this feminine form of ὅστις is unknown and, indeed, unlikely; in addition, his gnomic aorist is inappropriate, since the action is strictly

continuous; and the omission of a letter (the ἐ- of ἐκυβέρνησε) is less probable than the corruption of existing letters. There are several imitations or echoes of this fragment, and in all of them the present tense, whether active or passive, occurs: Cleanthes *Hymn* 34f. . . .δὸς δὲ κυρῆσαι | γνώμης ᾗ πίσυνος σὺ δίκης μέτα πάντα κυβερνᾷς; pseudo-Linus *ap*. Stob. *Ecl*. I, 10, 5 (I, p. 119, 9 W.) ὥς κατ' ἔριν συνάπαντα κυβερνᾶται διὰ παντός; *de victu* I, 10 τοῦτο [sc. τὸ θερμότατον πῦρ] πάντα διὰ παντὸς κυβερνᾷ; Plut. *de Isid*. 76, 382B ἡ δὲ ζῶσα. . .φύσις κάλλους τ' [Papabasiliou, Sieveking: ἄλλως τε codd.] ἔσπακεν ἀπορροὴν καὶ μοῖραν ἐκ τοῦ φρονοῦντος ὅπως [codd.: ὅτῳ Markland, Sieveking] κυβερνᾶται τὸ [τε] σύμπαν καθ' Ἡράκλειτον. Of the present forms of κυβερνάω, Bywater's κυβερνᾶται is an easy origin for ms. κυβερνῆσαι and is accepted by most scholars. ὁτέη stands, then, either for ὁτεῇ, or for ὅπῃ or one of its forms. Deichgräber, *loc. cit*., accepts ὁτέῃ, possible in the dative, because of Plutarch 382B quoted above, where ms. ὅπως after φρονοῦντος is admittedly very difficult, if not impossible, and where he thinks Markland's ὅτῳ must be accepted. In view of the corruption of the text it seems dangerous to use this passage to elucidate another corruption; and as it stands the Plutarch text is in favour of ὅπῃ. The matter is of some importance, for in the one case γνώμην becomes direct object of ἐπίστασθαι and a separately existing world-principle like the νοῦς of Anaxagoras; in the other it becomes merely an internal accusative to ἐπίστασθαι. Most scholars (including Zeller, Diels, Kranz, Deichgräber) have been prepared to accept the idea of Heraclitus using γνώμη as a name for the divine guiding principle. Heidel, however (*Proc. Amer. Acad. of Arts* 48 (1913) 700), maintained that this was a Stoic concept and not one which should be attributed to Heraclitus. With this I entirely agree; the name of the possessor of the γνώμη would have to be added, as in, for example, Pindar *Pyth*. V, 122f. Διός τοι νόος μέγας κυβερνᾷ | δαίμον' ἀνδρῶν φίλων. Anaxagoras did not assign νοῦς to a specific personality, but νοῦς is carefully described as an independent entity, not casually introduced as a synonym for something else.[1] In favour of the other interpretation is only Cleanthes in the lines quoted above:

[1] Snell, *Ph.U*. 29 (1924) 52, stresses the coincidence of the power of knowing with the thing known: cf. Empedocles fr. 109; Ar. *de an*. A 2, 405a25 (but *not*, *contra* Snell, Parmenides fr. 3). This does nothing to aid the interpretation of γνώμη as equivalent to Anaxagoras' νοῦς.

but even there Zeus himself is not equated with γνώμη, but is said to rely on it for the steering of all things: γνώμης ᾗ πίσυνος σὺ δίκης μέτα πάντα κυβερνᾷς. Nevertheless, this suggests that Cleanthes took γνώμην in Heraclitus as the direct object of ἐπίστασθαι; but that would be the natural interpretation for an exponent of the Stoic Logos as a separate intelligent force. In this matter one can only state one's own feeling, based upon the degree of abstraction one is prepared to attribute to Heraclitus.

This being so, I incline to accept Heidel's interpretation of ἐπίστασθαι γνώμην as a verbal phrase in which γνώμην is an internal accusative. ὁτέη is then seen to be a corruption of ὅκη, which is perhaps more correctly written ὅκηι but occurs without the iota in fr. 117, οὐκ ἐπαΐων ὅκη βαίνει, also in some mss. of Herodotus; ὅπη occurs in Empedocles fr. 110, 5 (but ὅπῃ at fr. 112, 9). τε is an easy change from a loosely written κ. Quite apart from the expediencies of interpretation, this is textually the best explanation of ὁτέη. As for γνώμην as internal accusative, Heidel defends it by pointing out that ἐπίστασθαι has not yet developed the exclusive sense of 'to know', but can mean 'to be convinced' (as in fr. 56) or 'to be acquainted with', as in Archilochus fr. 1 Diehl, Μουσέων... δῶρον ἐπιστάμενος. Often quoted as a parallel use is Ion of Chios fr. 4, 4 . . .ἀνθρώπων γνώμας εἶδε καὶ ἐξέμαθεν (so Kranz, probably correctly *contra* Diels' ᾔδεε κἀξέμαθεν: εἶδε must mean 'perceived', as opposed to 'knew', though the distinction between the two is sometimes very slight); but γνώμας here is direct object. More apposite is Theognis 60 οὔτε κακῶν γνώμας εἰδότες οὔτ' ἀγαθῶν, though here there are two possible interpretations. Gigon 144 (whose discussion of this fragment, and indeed of the others of this group, is particularly incisive and sound) simply says that ἐπίστασθαι γνώμην is equivalent to γνώμην ἔχειν, cf. fr. 78. There γνώμας means 'right judgement', and perhaps this gives a clue to the meaning of our phrase: 'to be acquainted with right judgement.' This gives an adequate sense, and is closer to the meaning of the separate Greek components than paraphrases like Reinhardt's 'die Vernunft besitzen' (he is forced to support this internal-accusative explanation because of his reading ἑτεῇ): nevertheless, one would prefer to have a good parallel for this use, and the emendation γνώμη (cf. Antiphon Soph. fr. 1, ὄψει ὁρᾷ. . .γνώμη γιγνώσκει) would be grammatically easier, as Heidel admitted.

Κυβερνᾶται calls to mind fr. 64, τὰ δὲ πάντα οἰακίζει κεραυνός. It must be something akin to fire which 'steers all things through all', a phrase the precise meaning of which is in doubt. διὰ πάντων must be distinguished from διὰ παντός, in, for example, Parmenides fr. 1, 32 (and the imitation in ps.-Linus and *de victu* quoted on p. 388), where it means 'continually'. Doubtless, as Gigon 145 remarks, our phrase is an essentially poetic formula: but his own explanation of it, 'alles bis ins einzelne', may be too unspecific. I suggest that διὰ πάντων has a locative sense, as in 'I steer a boat through the narrows'; the *whole* course of each separate thing is the result of 'steering', that is, of an operation either dependent on a mind or at least similar to that which a mind would have devised. In fr. 50 wisdom is declared to be the admission that all things are one; fr. 41 is very similar, because to understand how all things are steered through all is tantamount to the understanding of the underlying unity.

Another saying is attributed to Heraclitus in which he defines human wisdom in far more general terms: fr. 112D (107B) *ap.* Stob. *Flor.* 1, 178 Ἡρακλείτου ... σωφρονεῖν ἀρετὴ μεγίστη, καὶ σοφίη ἀληθέα λέγειν καὶ ποιεῖν κατὰ φύσιν ἐπαΐοντας. Heidel, *op. cit.* 713f., attacked the whole fragment (as had Schleiermacher and Bernays), and particularly the first three words; Diels proposed τὸ φρονεῖν for σωφρονεῖν (as in the even more suspect fr. 116D, also in Stobaeus' anthology); but even so these words can safely be rejected as a banal paraphrase in the language of late fifth-century ethical investigations. Against the rest of the saying Heidel has two semantic objections: first that σοφίη did not mean 'wisdom' in Heraclitus' time, but 'skill' (and particularly, as in Xenophanes fr. 2, poetic skill). This, indeed, may be the meaning in fr. 129 (certainly genuine), where Heraclitus rebukes Pythagoras for laying claim to a σοφίη of his own, which is described as πολυμαθίη κακοτεχνίη: but that context cannot be taken as decisive either way. Secondly, φύσις does not yet mean 'Nature'. The second objection is invalid: κατὰ φύσιν can mean here exactly what it means in fr. 1, that is, 'according to the real constitution (of a thing or things)'—see p. 43 and n. 1. The translations of Diels and Kranz ('nach der Natur') are impossible for Heraclitus. Even so, I do not believe the saying is genuine: it appears to be a rather clever fusion of Heraclitean phrases which give a possible, but thoroughly banal, resultant sense. λέγειν καὶ ποιεῖν is a familiar polar

phrase on the analogy of ἐπέων καὶ ἔργων in fr. 1 (p. 41; cf. fr. 73D on p. 44): for this reason it is unlikely that ἀληθέα should be taken with λέγειν alone (or that ποιεῖν = 'compose', as H. Gomperz thought). ἀληθέα λέγειν καὶ ποιεῖν is almost the exact reverse of ψευδῶν τέκτονας καὶ μάρτυρας in fr. 28. ἐπαΐοντες is perhaps formed on the analogy of fr. 117, οὐκ ἐπαΐων ὅκη βαίνει; we have to understand πάντων or the like. The final sense is: 'It is wisdom to say-and-act the truth, perceiving things according to their real constitution'; ἀληθέα and κατὰ φύσιν are kindred ideas. The whole sentiment is a more positive development of part of fr. 1: ... πειρώμενοι καὶ ἐπέων καὶ ἔργων τοιούτων ὁκοίων ἐγὼ διηγεῦμαι, κατὰ φύσιν διαιρέων ἕκαστον καὶ φράζων ὅκως ἔχει. In view of the doubt over σοφίη and the unoriginal appearance of the saying as a whole, and especially the unacceptable first three words, it is safer not to accept it as an original fragment: in any case it adds nothing to what Heraclitus tells us elsewhere.

32

(65 B)

Clement *Stromateis* v, 115, 1 (II, p. 404, 1 Stählin) οἶδα ἐγὼ καὶ Πλάτωνα προσμαρτυροῦντα Ἡρακλείτῳ γράφοντι· **ἓν τὸ σοφὸν μοῦνον λέγεσθαι οὐκ ἐθέλει καὶ ἐθέλει Ζηνὸς ὄνομα**[1] (seq. fr. 33).

1 οὔνομα Eusebius[D] (*P.E.* XIII, 13).

I know that Plato too bears witness to Heraclitus when he writes: One thing, the only truly wise, does not and does consent to be called by the name of Zeus (*fr.* 33 *follows*).

In fr. 120 Heraclitus used Διός as genitive of Ζεύς: this has led some to suppose that the popular etymological connexion Ζηνός–ζῆν is intended here. This connexion occurs at Aesch. *Supp.* 584ff., Eur. *Or.* 1635, then in Plato, *Crat.* 396A, and afterwards in the Stoics (cf. Diog. L. VII, 147). There is no clear reference in Plato to the fragment, and Clement was probably thinking of *Crat.* 396A; in this case he took Ζηνός as emphatic, but this is no good indication of the original sense. It is true that Heraclitus was interested in names and considered them to have a certain validity (see pp. 117 ff.); also he thought living and dead to be essentially connected (frr. 15, 62): but it is difficult to see how 'the only wise thing' can have been especially connected with life and death (so Gigon 139; Calogero, *Giorn. Crit. della Filos. Ital.* 17 (1936) 217f., does not answer the objection). Ζηνός is a common form in the *Iliad* and tragedy: there is no reason why Heraclitus, with his poetical style, should not have used it as an alternative to Διός, without any special significance.

The sense of ἐθέλει may be close to 'ought', cf. Rödiger, *Glotta* 8 (1916) 18f.: in one way it is legitimate to call 'the only wise thing' Zeus, in another way it is not; the distinction is implicit too in Xenophanes fr. 23, εἷς θεός ἔν τε θεοῖσι καὶ ἀνθρώποισι μέγιστος, | οὔτι δέμας θνητοῖσιν ὁμοίιος οὐδὲ νόημα. In the first line the one god is described in words often applied to Zeus—though Xenophanes avoids any such anthropomorphic name; in the second he is carefully dissociated from human properties. So also Heraclitus' deity has some of the qualities of the chief god of traditional religion, supreme

power, for example, and unrivalled wisdom. In other respects it is quite different; it is not appeased by senseless cults (fr. 5), and like Xenophanes' one god is entirely devoid of the more obvious anthropomorphic qualities. Naturally it is impossible entirely to avoid anthropomorphic metaphors in describing it. The transcendentalization of Zeus was carried on, of course, by Aeschylus, and a striking instance of this had been quoted by Clement immediately before the introduction of our fragment: Aesch. fr. 70 (from the *Heliades*) Ζεύς ἐστιν αἰθήρ, Ζεὺς δὲ γῆ, Ζεὺς δ' οὐρανός· | Ζεύς τοι τὰ πάντα χὤτι τῶνδ' ὑπέρτερον. Heraclitus thus formed an important stage in a process started by Xenophanes, and if Gigon usually tends to exaggerate the influence of Xenophanes on Heraclitus' thought, there is no doubt that in this context the dependence is considerable. —For ἐθέλει cf. also Aesch. *Ag.* 160f., and parallels cited by Fraenkel. I doubt if the personification in our fragment is so extensive.

The sense of ἓν τὸ σοφὸν μοῦνον has been more variously interpreted. First, μοῦνον must, I think, belong with the noun phrase and not modify λέγεσθαι; this latter connexion would give no very good sense unless one were prepared to follow the extreme interpretation of Cron, who punctuates strongly after οὐκ ἐθέλει and thus makes ἕν the subject and τὸ σοφόν, like Ζηνὸς ὄνομα, a predicate; but the sentence-rhythm is heavily against this, and especially the use of καί (one would expect ἐθέλει γὰρ καὶ Ζηνὸς ὄνομα λέγεσθαι). Secondly, the phrase ἓν τὸ σοφὸν μοῦνον might conceivably mean any one of five different things: (i) 'one thing, the only wise'; (ii) 'one thing alone, the wise'; (iii) 'the one wise thing alone'; (iv) 'the wise is one thing only' (punctuating strongly after μοῦνον); (v) 'the only wise thing is one' (punctuating as in (iv)). Of these (v) may be dismissed as improbable, in view of its tautology; (ii), with its separation of ἕν from μοῦνον, is syntactically unusual, though the frequency of εἷς μόνος etc. makes it attractive. In (iii), ἓν τὸ σοφόν forms a convenient subject-group; but in both (ii) and (iii) the sense of μοῦνον is weak: why *stress* by this addition the exclusiveness of a bizarre description for which no other entity could possibly be a candidate? The words ἓν τὸ σοφόν occurred also in fr. 41, where τὸ σοφόν is undoubtedly subject, and ἕν predicate; but 'the wise thing' there refers primarily to wisdom for men, and is certainly not interchangeable with 'the wise thing' in the present fragment, which must be a description of something like a deity—at any rate the

possessor of wisdom rather than the thing possessed. However, it was suggested on p. 387 that the content of the wisdom in each case was not radically different, which might help to explain how the same words, ἓν τὸ σοφόν, can be used in each case. It is possible, of course, that Clement added the word ἓν in the present fragment because he had fr. 41 in his mind; I should prefer this kind of explanation to drastic expedients like that of Th. Gomperz (*Wien. Sitzungsb.* 113 (1886) 1004f.), who combined the two fragments as follows: ἓν τὸ σοφὸν μοῦνον, ἐπίστασθαι γνώμην ᾗ κυβερνᾶται πάντα διὰ πάντων· λέγεσθαι οὐκ ἐθέλει καὶ ἐθέλει Ζηνὸς οὔνομα—or that of Reinhardt mentioned on p. 386. Yet it is possible to accept both fragments as they stand, and in default of more concrete evidence this course should provisionally be followed. In these circumstances (iv) above is seen to be unsuitable, since it would indeed be difficult if τὸ σοφόν in each fragment played an exactly parallel grammatical role: the use of the same words in different (though not opposed) senses is certainly more tolerable if their emphasis is different. A further objection against (iv) is that the strong punctuation would diminish the logical cohesion between the first four and the remaining words of the sentence. Neither (ii) nor (iii) is impossible, yet in each of them μοῦνον, used to reinforce ἕν, is superfluous. I prefer (i), the interpretation of DK, by which μοῦνον limits the attribution of σοφόν; though this is syntactically harder. In any case, τὸ σοφόν is not a *name* for god or the like, but a description appended to the neutral ἕν. It is true that even with interpretation (i), which I have tentatively adopted, the exact force of ἓν is not immediately apparent; perhaps the prominence of ἓν is due to Heraclitus' wish to emphasize the unique character of the Logos, further described as the only possessor of perfect wisdom, in contrast to the divergent attributes of Zeus. This leads to another point: τὸ σοφόν must, on any interpretation, imply *absolute* wisdom (as opposed to approximations, however close, to perfection in this respect), for otherwise any possessor of 'true judgement, how all are steered through all' (fr. 41) might also claim a share in the name of Zeus. Yet fr. 41 certainly applied to human wisdom, primarily: this is not explicitly stated there, but there are many other fragments which show that apprehension of the Logos (which certainly must involve an understanding of the way in which things as a whole are ordered) is theoretically attainable by some men, even

if few of Heraclitus' contemporaries were of the kind to attain it. This wisdom cannot, obviously, be *completely* achieved by men; only that which itself accomplishes the 'steering' of things can completely know how things are steered. The close attachment of μοῦνον to τὸ σοφόν helps considerably to make it clear that the adjective must here be understood in its absolute sense.

Gigon 140 has drawn attention in this context to the doctrine attributed to Pythagoras by Heraclides Ponticus *ap.* Diog. L. I, 12, that μηδένα εἶναι σοφὸν ἀλλ' ἢ τὸν θεόν: Heraclides also tells us that Pythagoras (perhaps for this reason) first applied to himself the term φιλόσοφος, and Heraclitus fr. 35 may be directed against this claim. If Heraclides' information is true—and it should be treated with great caution— then τὸ σοφὸν μοῦνον in fr. 32 might express agreement with Pythagoras; but this in itself is an unlikely eventuality, and it is more probable that the idea of perfect wisdom being a divine and not a human attribute was widespread; Heraclitus at all events reaffirms the idea in quite different terms in fr. 78. It is possible that Epicharmus fr. 4 Diels, which at first sight seems to contradict fr. 32, refers to Pythagoras rather than to Heraclitus, if indeed there is a reference to any specific person: Εὔμαιε, τὸ σοφόν ἐστιν οὐ καθ' ἓν μόνον, | ἀλλ' ὅσσα περ ȥῇ πάντα καὶ γνώμαν ἔχει . . . [the hen knows how to lay an egg] τὸ δὲ σοφὸν ἁ φύσις τόδ' οἶδεν ὡς ἔχει | μόνα· πεπαίδευται γὰρ αὑταύτας ὕπο. The use of ἁ φύσις here has been thought to show that this fragment cannot be by Epicharmus himself; certainly in the early fifth century φύσις does not mean 'Nature', but in the present context it could be akin to Pindar's use of φυά as 'nature' or 'genius'. I accept the fragment as by Epicharmus, but largely agree with Gigon 140ff. in his scepticism about the Heraclitizing tendencies of the Sicilian playwright. All the supposedly Heraclitean ideas were ones which were held by many others too, were a part in fact of popular wisdom. Certainly the first two lines of fr. 4, with τὸ σοφόν, ἓν μόνον and γνώμαν ἔχει, have remarkable verbal coincidences with Heraclitus frr. 32 and 78, and this is, I think, the strongest evidence for Epicharmus' knowledge of Heraclitus. But Epicharmus does not materially assist the interpretation of Heraclitus, and is too uncertain for a *terminus ante quem*, if one is needed (p. 2).

The implication that human wisdom is analogous to but less complete than divine wisdom is important; it confirms the evidence

of Group 1, that the Logos is both something independent, a θεῖος νόμος (fr. 114), and something perceptible by men. The Logos was discovered to be more than a principle: it is a materialized formula, an aspect of the operation of fire. So also is τὸ σοφὸν μοῦνον: this too is one, as the Logos is one and the divine law is one (see Bröcker, *Gnomon* 13 (1937) 535), and it, too, on the evidence of fr. 64, is an aspect of fire. No doubt Heraclitus, for the purpose of presentation, abstracts this wisdom from fire; probably he did not always retain its fiery nature in the forefront of his mind, but reverted to the language of the most advanced philosophical-religious thought of his day. Xenophanes, after all, had stressed that his one god exerted power by means of intellect, fr. 25 ἀλλ' ἀπάνευθε πόνοιο νόου φρενὶ πάντα κραδαίνει. On the face of it, this represents a more advanced, less concrete conception than the material νοῦς of Anaxagoras; though Xenophanes is perhaps still using metaphorical language. Heraclitus' metaphors ('steering', 'Zeus', etc.) are not so liable to mislead, since for him there was no rigid distinction in kind between the Logos as comprehended in a human mind and the Logos operating in nature. Above all it is important to remember that Heraclitus did not possess our own logical apparatus. Precise identifications, the distinction between an activity, a mode of activity, and a concrete object, or exact knowledge of where literal description ended and metaphor began, were beyond his logical range—perhaps even beyond his conscious aims, for in spite of his workmanlike approach he still lived, as his language shows, in the tradition of poetical thought. None the less, we can be sure that *fire* is not a metaphor: the cosmos *is* a fire, part of it temporarily changed; unchanged fire is the most active kind of matter and in its purest form or aither (so we may conjecture) it possesses directive capacity, it is the embodiment of the Logos, or formula of that direction, and it is wise. It is not surprising, then, that ψυχή in its unadulterated form is fiery. Thus Heraclitus uses different terms to describe the single factor which he detected in the plural world of phenomena; perhaps the substantial term fire was of less importance for him than the others, especially Logos. Sometimes the descriptions overlap; thus in fr. 53 πόλεμος is described in a phrase normally applied to Zeus—but πόλεμος is not by any means the same as the σοφόν of fr. 32. 'War' is an essential precondition of a unified cosmos, because without the change between opposites which it implies the

connexion between opposites would cease; but it is *ordered* change, not mere change alone, which composes the cosmos. 'The only wise' is the ordering agent, associated with λόγος and μέτρον. Thus the distinction made by Gigon 139 is a false one: 'Das ist die Frucht der gerade bei Heraklit mächtig werdenden Logik: Ein logisches Gesetz des Weltlaufs und ein Weltherr, dessen Wesen es ist, das logische Gesetz zu kennen.' Reinhardt is also misleading (*Parmenides* 205): 'Heraklits Prinzip, das, was bei ihm dem ἄπειρον des Anaximander und dem ὄν des Parmenides entspricht, ist nicht das Feuer, sondern τὸ σοφόν oder noch deutlicher ἓν τὸ σοφόν.' It is true that Anaximander, in particular, may have said of his Unbounded that 'it embraces all and steers all' (περιέχειν ἅπαντα καὶ πάντα κυβερνᾶν, an idea however which Aristotle, *Phys.* Γ 4, 203b12, formally assigns to all early thinkers who did not postulate a separate cause of motion); but just as 'steering' was not the whole of his τὸ θεῖον, so σοφόν cannot be isolated from the more complex character of Heraclitus' divine principle at the expense of other descriptions of it, as Logos or fire.

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(18B)

Stobaeus *Florilegium* I, 174 (III, p. 129, I Hense) Ἡρακλείτου· **ὁκόσων λόγους ἤκουσα οὐδεὶς ἀφικνεῖται ἐς[1] τοῦτο, ὥστε γινώσκειν[2] ὅτι σοφόν ἐστι πάντων κεχωρισμένον** (seq. frr. 109–14).

1 ἐς A Tr., εἰς M[d]. 2 γινώσκειν A Tr., γιγνώσκειν M[d]. Post γινώσκειν verba ἢ γὰρ θεὸς ἢ θηρίον habet Tr., scilicet ex Aristot. *Pol.* A 2, 1253 a 29.

By Heraclitus: Of all whose accounts I have heard no one reaches the point of recognizing that wise is separated from all (*frr.* 109–14 *follow*).

Here λόγους is more likely to mean 'accounts' (almost 'theories') than 'words', though the distinction is not a large one. At any rate it is not implied that Heraclitus had heard these accounts in person; ἤκουσα may mean no more than 'heard of', implying quite a superficial acquaintance. Heraclitus is obviously thinking of philosophical interpretations like those of the Milesians, Pythagoras, and Xenophanes, as well as the great poets. According to Heraclides, Pythagoras called god alone wise (p. 395); fr. 32 modified this by suggesting that the divine alone is *all*-wise. It is a question whether the present fragment is intended to confirm this view, or whether it refers to human wisdom like fr. 41. The omission of the article before σοφόν (if it is not simply a textual error) is not very surprising. Whatever may have been the general practice in the archaic style, Heraclitus was prepared on occasion to use neuter participles and adjectives without the article, as nouns: cf. especially frr. 88, 126. σοφόν therefore probably means either 'wisdom' or 'the/a wise thing'. The gender of πάντων remains in doubt. The possibilities then are: (i) wisdom is separated from all men;[1] (ii) wisdom is separated from all things; (iii) the wise [cf. ἓν τὸ σοφὸν μοῦνον in fr. 32] is separated from all men; (iv) the wise is separated from all things.

[1] Zeller, ZN 791 n., rightly rejects his own suggestion that the meaning could be 'wisdom is foreign to all of them', i.e. 'those whose accounts I have heard'.

Now (i) is incompatible with fr. 41, which defines a kind of wisdom which is to some extent within reach of men (though admittedly generally neglected). (iii) might be possible as another statement, like frr. 78, 79, 82–3, 102, of the immense inferiority of man to god; but those fragments do not necessarily assert an absolute separation between the two (for fr. 78 is perhaps exaggerated in its claim that the human character in general has *no* γνώμας, and is modified by fr. 41), and the use of σοφόν in frr. 41 and 32 suggests that human wisdom, rare as it may be, is a lesser part of divine wisdom. There is no absolute transcendentalism in Heraclitus. (iv) is at first sight impossible, for frr. 32, 64, and 41 together show that the divine thing characterized as wise actually steers all things. Yet κεχωρισμένον may imply not complete isolation but simply a great difference in φύσις. This difference might actually increase the power (cf. Pindar *Nem.* VI, 2 f. διείργει δὲ πᾶσα κεκριμένα δύναμις; *Il.* XV, 108 (Ζεύς) κάρτεΐ τε σθένεΐ τε διακριδὸν εἶναι ἄριστος). Anaxagoras' νοῦς had power over all things (πάντων...κρατεῖ, fr. 12), because it was unmixed with anything else (...μέμεικται οὐδενὶ χρήματι, ἀλλὰ μόνος αὐτὸς ἐπ' ἑωυτοῦ ἐστιν, fr. 12). The choice of interpretation must lie, then, between (iv) and (ii), against which there is no obvious objection. According to interpretation (ii) the fragment would emphasize that wisdom, which in fr. 41 is said to be *one*, is not to be confused with other things claiming the name of σοφίη. This was commonly applied to any skill, for example, music or the composition of poetry, and our fragment perhaps insists that these have nothing to do with *true* wisdom—the recognition, according to fr. 41, of how all things are steered through all; the understanding of the Logos. In the same intellectual context would come the attack on πολυμαθίη in fr. 40, which as has been seen was perhaps originally connected with fr. 41. σοφίη is something to be aimed at by all men in general, quite apart from their special proficiencies: the way in which the world-order operates—the order of which men's own behaviour and actions are part—transcends the idiosyncrasies of the individual; once again it is the contrast between the 'common' and the individual's private assessment (cf. fr. 2).

It will already have been noted that I prefer interpretation (ii), just outlined, to (iv)—prefer, that is, to take the present fragment closely with fr. 41 rather than with fr. 32, as describing human rather than divine wisdom. This is mainly because I am slow to believe that

σοφόν or τὸ σοφόν by itself, absolutely unqualified, could have been used by Heraclitus as a name for the highest entity; in fr. 32 it is an attribute of that being, an attribute possessed, admittedly, to the highest degree, but one which does not exclude other attributes. It is possible, of course, that the present fragment followed directly upon some statement predicating wisdom of, for example, the Logos, in which case a subsequent use of σοφόν by itself would be more acceptable; there is nothing improbable in the statement that the highest being is very far removed from anything men can imagine, and other such statements by Heraclitus have already been cited. It is the fact that an aspect of the highest being which *is* partly apprehensible by men is being stressed, which makes this kind of interpretation (i.e. (iv)) more difficult. Certainly an extreme transcendental interpretation like Reinhardt's 'there is an intelligence beyond all things' (*Parmenides* 205) is improbable. Apollonius Tyan. *ap.* Euseb. *P.E.* IV, 13 (θεῷ...ἑνί τε ὄντι κεχωρισμένῳ πάντων) may well be a reminiscence of the wording of our fragment, and appears to support interpretation (iv); but such late, hypothetical, and in any case probably superficial references are of little value in reconstructing the original Heraclitean context; cf. also [Philolaus] fr. 20. Neither of the two interpretations described can be excluded, and the precise explanation of the fragment—like so much else in this difficult and in some ways contradictory group—must remain in doubt.[1]

[1] Bernays rejected the whole fragment; Th. Gomperz made it end at γινώσκειν; Heidel tried to punctuate strongly after that word. There is no reason whatever for accepting any of these conjectures.

EPILOGUE[1]

The Milesians are not named in the extant fragments, save for a brief reference to Thales, nor is there any direct reference to details of their speculation. Xenophanes and Pythagoras are criticized for the mere acquisition of knowledge (πολυμαθίη); in addition it is suggested that the latter was dishonest. Heraclitus must have known about the Milesian accounts of world-structure; in particular, his theory of opposites is a development in one respect of Anaximander's view that natural events are due to the alternate expansion ('injustice') and diminution ('retribution') of opposed substances (primarily the great cosmological conglomerates, viewed simply as 'the hot' etc.). Heraclitus' statement (fr. 80) that 'strife is justice (the normal course of events)' is almost certainly a criticism of Anaximander's metaphor. Yet Heraclitus accepted the same assumption that things in the world can be analysed into opposites, and that events are reactions between opposites; the fifth-century Pythagoreans and Alcmaeon adopted the same view (with slight differences), which may have been a general one; though whether Pythagoras himself held it is uncertain. Heraclitus understood that the interaction between opposites is natural, i.e. is necessary for the continuance of the world as men know it, yet he saw that no single opposite must permanently predominate: a balance or μέτρον must be preserved in all physical changes, so that the total quantity of

[1] This brief epilogue is not intended to be a summary of the contents of this book; it merely adds a few synthetic impressions, and attempts in a few sentences to outline Heraclitus' relation to his philosophical environment. The time for an inclusive assessment of Heraclitus has not yet come; certainly none could be made without a detailed consideration of the anthropocentric fragments also. Nevertheless, some of the fundamental tendencies of his thought may have been revealed by the examination of the cosmic fragments; indeed, the anthropocentric fragments disclose no separate fundamental concepts except that of the importance of the soul and its close relation to the outside world. For other brief assessments of Heraclitus' beliefs on the constitution of the world of nature see my short article 'Natural Change in Heraclitus', *Mind* LX, n.s., no. 237 (January 1951) pp. 35ff., H. Gomperz, *Tessarakontaeteris Theophilou Borea* (Athens, 1940) II, 70, and the whole Heraclitus-chapter in G. S. Kirk and J. E. Raven, *The Presocratic Philosophers* (Cambridge, 1960), 182–215.

every essential constituent of the world remains stable. Long-term excess is punished (and reduced) by the servants of Dike (fr. 94): thus, after all, Heraclitus accepted a similar metaphorical and anthropomorphic explanation of the operation of opposites to Anaximander's, but by commonly expressing it in terms of what he took to be a normal human activity (ἔρις), and not of an aberration (ἀδικία), he avoided the accidental implication that change is in any way 'wrong' or undesirable.

Heraclitus evidently shared the surprising but universal Ionian presupposition that the world is explicable, and (for this reason?) that it is essentially *one*; but instead of seeing its unity in its origin from a single substance (with the attendant difficulties of cosmogonical differentiation), he conceived of a single arrangement or formula in all separate things which connected them into a determinate whole. This formula, the Logos, he deduced from the fact that opposite extremes are essentially connected, are in his terms 'one and the same', either because they automatically succeed one another (as, for example, in natural cycles), or because their difference is only relative. This Logos is to be regarded as an actual constituent of things (and so in the last analysis is material); it provides 'a backward-stretching connexion' between opposed extremes, that is, one which operates equally in each direction and ensures the retention of measures by the fact that action of itself promotes, sooner or later, an equivalent reaction. Most of Heraclitus' energy was directed to proving that opposite extremes in each continuum are connected; the connexion of different continua is probably to be deduced from the presence in each continuum or genus of the *same* Logos, which is indeed 'common to all things'.

The physical scheme is related to the logical analysis of things by the common element of measure, of which the Logos is a manifestation. Cosmology is not analysed entirely in terms of opposites; Heraclitus' *primary* analysis of the physical world was the more empirical one into its three main components, fire, sea and earth. Of these, fire has a special position, and sea and earth are variant forms of fire. Alterations of fire into sea, of sea into earth, and vice versa, are constantly taking place in the meteorological processes, and are quantitatively regulated. Fire occupies the directive position, and as such is probably to be regarded as a specialized aspect of the Logos; it is by nature kinetic, and its own alterations are exemplary of

quantitative regularity. Sea and earth are temporarily extinguished fire, and the whole order of things is spoken of as a fire of which parts are kindling and other parts extinguishing themselves; because these processes are in balance the fire as a whole is 'ever-living'. Heraclitus also thought of the directive fire, or Logos, as 'wise', because it organizes all change; nor can the concept of god as subsuming all the opposites be separated from that of Logos and fire. It is impossible, however, precisely to interrelate these different aspects of the cosmic unity, mainly because Heraclitus himself did not (and probably could not) do so, but used different terms according to different moods and in different contexts—e.g. fire in meteorological-cosmological contexts, god in synthetic ones where he is accepting traditional thought-patterns, Logos in logical-analytical ones. The concepts of process and measure are re-expressed in the analogy of the river, according to which there must always be change, but ordered change between proportional parts. Stability is possible for a time, and it is obvious that many parts of the world *are* stable, but all things must eventually change and so play their part in the maintenance of balance and plurality.

Heraclitus made it far clearer than his immediate predecessors that man himself is a part of his surroundings; in him, too, the Logos is operative, and his effective functioning depends upon action in accordance with it—and so upon his understanding of it. This emphasis upon the positive value of the right kind of knowledge is a point of contact with Pythagoreanism, though in Heraclitus there is no mystical motive; he had learned from Xenophanes that god is a cosmic phenomenon, and for him the state of the soul, though important, was expressible in terms of fire or moisture. The principle of measure, too, was anticipated by Pythagoras with his probable discovery of the mathematical basis of the musical scale; the deduction from this that all things are numerically constituted may have been made not by Pythagoras himself but by his immediate successors, roughly contemporary with Heraclitus. The discovery of and emphasis on the *arrangement* of things, rather than their gross material constitution (though arrangement and order were not separable, but themselves material), is perhaps the most important one in the history of archaic speculation. Heraclitus, though perhaps initially indebted to Pythagoras here, must be given full credit for having developed this concept so as to produce the first reasonably

coherent explanation of the world of experience. That he was able to do so was partly due to his common sense (surprising perhaps in a man of such passionate convictions), which expressed itself in the view that the evidence of the senses may be accepted provided that it is interpreted with prudence and understanding. Unfortunately, subsequent thinkers were diverted by the Parmenidean fallacy (the ultimate solution of which was, however, of the utmost importance for the progress of philosophy), and Heraclitus had no direct followers of note; doubtless this was partly due to his cryptic style of utterance.[1]

[1] For a further discussion of the interrelations of different parts of Heraclitus' thought, and the connexions of Logos, strife, and fire, see my short article 'Logos, ἁρμονίη, lutte, dieu et feu' in *Revue Philosophique*, 147 (1957) 288–99.

GENERAL INDEX

For references to ancient authors, see also under the Index of Passages (pp. 416ff.).